Comments of

COALITION FOR SAFE BUILDING MATERIALS

(California Pipe Trades Council, California Professional Firefighters, Consumer Federation of California, Planning and Conservation League, Center for Environmental Health, Sierra Club of California and Communities for a Better Environment)

on the

DRAFT ENVIRONMENTAL IMPACT REPORT
FOR
ADOPTION OF REGULATIONS PERMITTING STATEWIDE RESIDENTIAL USE OF CHLORINATED POLYVINYL CHLORIDE (CPVC) PLASTIC PLUMBING PIPE WITHOUT FIRST MAKING A FINDING OF POTENTIAL PREMATURE METALLIC PIPE FAILURE DUE TO LOCAL WATER OR SOIL CONDITIONS
STATE CLEARINGHOUSE NO. 2006012044

VOLUME I

COMMENTS PREPARED BY:

Daniel L. Cardozo
Thomas A. Enslow
Adams Broadwell Joseph & Cardozo
1225 8th Street, Suite 550
Sacramento, CA 95814

Petra Pless, Ph.D.
440 Nova Albion Way
San Rafael, CA 94903

Thomas S. Reid
TRA Environmental Sciences, Inc.
545 Middlefield Road, Suite 201
Menlo Park, CA 94025

Jim Bellows, Ph.D., MPH
5000 Manila Avenue
Oakland, CA 94609

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I. INTRODUCTION

On behalf of the Coalition for Safe Building Materials ("Coalition"), this letter provides comments on the July 2006 Draft Environmental Impact Report[1] ("DEIR") for the proposed adoption of regulations that would amend the California Plumbing Code ("CPC") to authorize the statewide approval of Chlorinated Poly-Vinyl Chloride ("CPVC") drinking water pipe for all residential construction ("Project"). The Coalition members include the California Pipe Trades Council, the California Professional Firefighters, the Sierra Club, the Planning and Conservation League, Communities for a Better Environment, the Consumer Federation of California and Center for Environmental Health. The environmental, consumer, public health and labor organizations that make up the Coalition represent literally millions of Californians concerned about the safety of new building materials.

The Department of Housing and Community Development ("HCD") has prepared the DEIR as the lead agency under the California Environmental Quality Act ("CEQA").

The proposed Project will result in a massive expansion of CPVC potable water pipe use, both geographically and in quantity. During the scoping period for the DEIR, we commended HCD for finally agreeing to complete an environmental impact report ("EIR") for the Project. We stated that we hoped the document would address the concerns that we have raised, fully evaluate and disclose the Project's potential impacts, and be an open, impartial decisionmaking document based on real science. The DEIR fails in all of these respects.

The gross inadequacy of the DEIR is both baffling and frustrating. Last year the coalition and numerous other interested parties provided HCD with extensive comments and over seven volumes of evidence that needed to be evaluated in an EIR. The DEIR simply ignores this evidence as if it didn't exist. HCD continues to resist a meaningful analysis of the issues that have been identified and presented to the Department in exhausting detail during past proceedings.

Our scoping comments referred HCD to these past submittals. Our scoping letter and the comments submitted to HCD during the 2005 proceedings describe in detail the impacts that were of greatest concern. These impacts included: drinking water contamination; worker exposure to toxic solvents; increased air emissions; manufacturing impacts; solid waste

[1] State Clearinghouse No. 2006012044.

impacts; increased fire hazards; and aquatic toxicity and premature pipe failure.

The DEIR, however, limits its analysis almost entirely to air quality impacts. The DEIR's air quality analysis, while deeply flawed, admits that the Project will result in increased ozone pollution throughout California.

The DEIR's evaluation of all other impacts is either cursory or nonexistent. The DEIR's evaluation of drinking water contamination, worker exposure to toxic solvents, and solid waste impacts is perfunctory, focuses on irrelevant issues and entirely ignores the evidence and comments that had been submitted on this issue. The DEIR contains no discussion, whatsoever, of manufacturing impacts, fire hazard impacts, aquatic toxicity impacts or the environmental impacts that would be associated with premature pipe failure.

HCD's failure to evaluate objectively the health, safety and environmental impacts of its proposal renders the DEIR legally inadequate. As discussed in detail below and in the technical comments, the DEIR's evaluation of the project fails to meet the minimum standards of CEQA. Aside from its air quality analysis, which itself lacks foundation and grossly understates the potential impacts, the DEIR's analysis of potential impacts is completely devoid of any quantification, empirical analysis or factual examination. The document fails to provide substantial evidence to support its findings regarding potential environmental effects and lacks foundation for its ultimate conclusions.

The evidence in the record, along with the expert comments and studies attached to this letter, overwhelmingly demonstrate that the proposed statewide approval of CPVC may have significant effects on the environment that have not been adequately disclosed or evaluated in the DEIR. As discussed in more detail later in this document, these impacts include:

- **Air Quality Impacts**
    - Widespread use of CPVC solvents and cements will result in Volatile Organic Compound ("VOC") emissions in exceedance of standards of significance.
    - The DEIR's analysis substantially understates the scope of the Project's air quality impacts.
- **Worker Health & Safety Impacts**
    - 1989 Department of Health Services Study concluded that workers installing CPVC pipe were regularly exposed to toxic

chemicals such as tetrahydrofuran ("THF"), methyl ethyl ketone ("MEK"), cyclohexanone ("CHX") and acetone ("ACE") at levels exceeding established workplace standards.

- Worker exposure occurs through inhalation and dermal absorption.
- Most gloves offer no protection against dermal absorption of any of these chemicals. The use of gloves may actually make the problem worse.
- Ventilation and glove-use requirements will not reduce these risks below a level of significance.
- Recent studies have determined that where CPVC has been approved on a limited basis, enforcement and implementation of ventilation and glove-use requirements has been virtually non-existent.

- **Contamination of drinking water**
  - CPVC pipe leaches chemicals such as THF, MEK, ACE, CHX and organotins (including tributyltin) into drinking water.
  - Proposed flushing mitigation is inadequate and unenforceable.
  - The public is exposed through consumption and through inhalation and skin exposure during bathing.
  - Aquatic toxicity concerns – organotins (and particularly tributyltin) are toxic to many aquatic animals. Most water treatment plants leave significant amounts of organotins in the effluent discharged into receiving waters.
- **Manufacturing Impacts**
  - CPVC pipe, fittings, cements and solvents are manufactured in California.
  - Increased manufacturing of these products will result in significant air quality and worker health and safety impacts.
  - The manufacture of CPVC pipe and fittings results in the release of dioxins and other highly toxic chemicals.
- **Solid Waste Impacts**
  - CPVC pipe is extremely difficult to recycle and is considered a "contaminant" in the waste stream.
  - Copper piping is completely recyclable.

- **Fire Hazard Impacts**
    - o CPVC pipe releases dioxins and toxic smoke when burned.
    - o CPVC pipe makes residential fires, plastic incinerators and landfill fires significantly more dangerous.

The DEIR must be revised to evaluate these deficiencies and recirculated for public review and comment.

We have prepared these comments with the assistance of technical experts. Their *curriculum vitae* are attached as Exhibits D through F.

Exhibit A contains the comments and analysis of the air quality issues prepared by Dr. Petra Pless. Dr. Pless has over ten years of experience preparing or reviewing air quality analyses for EIRs. Dr. Pless presents a detailed calculation of the VOC emissions that will result from Project approval.

Exhibit B includes the technical comments prepared by Thomas Reid of TRA Environmental Services, Inc. These comments focus on the chemistry of CPVC plastic pipe, leaching impacts, solid waste impacts, premature rupture of CPVC, and fire and smoke toxicity issues. Tom Reid has over 30 years of experience in preparing EIRs for public agencies and for project applicants. He also has 25 years of experience studying the chemistry of plastic plumbing products, and evaluating the human health and environmental effects associated with such materials.

Exhibit C contains the technical comments of Dr. James D. Bellows. Dr. Bellows is a Certified Industrial Hygienist and Certified Safety Professional. He is exceptionally well qualified to address the worker health and safety issues associated with the Project, having served as the lead author of the 1989 Department of Health Services ("DHS") CPVC worker exposure study relied upon by HCD in the abandoned 1989 and 1998 CPVC EIRs. Dr. Bellows presents a detailed analysis of the significant worker health impacts that would result from the Project.

Please note that these experts' comments supplement the issues addressed below and must be addressed and responded to separately.

These comments describe in detail the failure of the DEIR to disclose, evaluate and mitigate the potential impacts of the Project. The DEIR fails in significant aspects to perform its function as an informational document that is meant "to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment" and "to list ways in which the significant effects of such a

project might be minimized."[2] Because the DEIR fails to comply with the requirements of CEQA, it may not be used as the basis for approving the Project.

II. HCD PROPOSES TO AMEND CPC SECTIONS 604.1, 604.1.1, AND 604.1.2 TO ALLOW THE STATEWIDE APPROVAL OF CPVC POTABLE WATER PIPE

Under HCD's proposed statewide approval, all local building officials would be required to permit the use of CPVC potable water pipe in any residential building. This represents a massive expansion of the authorized allowable use of CPVC potable water pipe in California.

Currently, CPC section 604.1.2 strictly limits the use of CPVC to the few areas of the state where a finding can be made that metallic pipe has or "will" prematurely fail due to existing water or soil conditions. Furthermore, even where such a finding is made, the approval of CPVC by local building officials is discretionary, not mandatory. CPC section 604.1.2 and CPC Appendix I, sections 301.0.1.1 and 301.0.2.1 also impose flushing, ventilation, glove-use and inspection requirements where such limited approval is granted.

The current regulations restricting where CPVC drinking water pipe may be installed were adopted in 2000 after the preparation of Mitigated Negative Declaration State Clearinghouse No. 2000091089 ("2000 MND"). The 2000 MND expressly and repeatedly stated that its findings were based upon the limited nature of the approval.

Prior to the 2000-limited approval, HCD twice determined in Initial Studies that the much broader statewide approval of CPVC would have numerous potentially significant effects on the environment (including contamination of drinking water, worker exposure to toxic solvents, increased air emissions, manufacturing, solid waste impacts and increased fire hazards) and would require the preparation of an EIR. Furthermore, HCD twice drafted incomplete EIRs on the impact of statewide approval of CPVC, only to abandon them prior to completion.

Under the Project examined in the DEIR, HCD proposes to amend the CPC to remove the restriction limiting the use of CPVC drinking water pipe to the few areas of the state where metallic pipe is proven to corrode

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[2] *Laurel Heights Improvement Assn. v. Regents of University of California ["Laurel Heights I"]* (1988) 47 Cal.3d 376, 391.

prematurely due to water or soil conditions.[3] This represents an enormous increase in the approved use of CPVC and in potential CPVC installations. Industry estimates obtained from HCD demonstrate that the current limited approval has resulted in installation of CPVC in only *one to four percent (4%)* of the annual residential plumbing installations in California.[4]

HCD also proposes to amend the CPC to require that all plastic pipe and fittings joined with solvent cement shall utilize low-VOC[5] primers, if primer is required, and low-VOC solvent cements.[6] For CPVC, HCD proposes defining low-VOC cement as cement with a VOC content of less than or equal to 490 g/l and defining low-VOC primer as primer with a VOC content of less than or equal to 550 g/l.[7]

III. THE DEIR FAILS TO COMPLY WITH THE FUNDAMENTAL INFORMATIONAL AND PUBLIC DISCLOSURE REQUIREMENTS OF CEQA

A. Legal Standards

CEQA is designed to inform decisionmakers and the public about the potential, significant environmental effects of a project.[8] "CEQA's fundamental goal [is] fostering informed decision-making."[9] "The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind."[10]

An EIR is "the heart of CEQA,"[11] and "serves as the informational tool to facilitate informed decision-making."[12] An EIR serves "to demonstrate to

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[3] See DEIR at pp.18-20.
[4] HCD's "Addendum to Adopted Mitigated Negative Declaration State Clearinghouse No. 2000091089" states that 310,980 residential units were piped in 2004. (HCD, Addendum to Adopted Mitigated Negative Declaration State Clearinghouse No. 2000091089 (March 3, 2005) at p. 19.) A December 3, 2004 e-mail to HCD from a representative of Noveon, Inc., the company that holds the patents on CPVC, shows that an average of only 2,275 homes a year were piped with CPVC in California from 2000 to 2003 and that only 12,000 homes were piped with CPVC in California in 2004. (See Appendix 20.) According to these numbers, the limited approval of CPVC examined in the 2000 MND applied to only one to four percent (4%) of residential units statewide. See also Exhibit A at Exhibit 1 ("Dr. Fox Comments").
[5] Volatile Organic Compound.
[6] DEIR at pp.16-18.
[7] DEIR at p. 16.
[8] 14 Cal. Code Regs. ("CEQA Guidelines") § 15002, subd. (a)(1).
[9] *Laurel Heights I, supra,* 47 Cal.3d at 402.
[10] *Bozung v. LAFCO* (1975) 13 Cal.3d 263, 283.
[11] *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.
[12] *Dusek v. Anaheim Redevelopment Agency* (1985) 173 Cal.App.3d 1029, 1037.

an apprehensive citizenry that the [agency] has analyzed and considered the ecological implications of its action."[13] Thus, an EIR "protects not only the environment but also informed self-government."[14]

To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and "reflect a good faith effort at full disclosure."[15] CEQA requires an EIR to disclose all potential direct and indirect, significant environmental impacts of a project.[16] A significant environmental impact is "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."[17]

A legally adequate EIR "must contain sufficient detail to help ensure the integrity of the process of decision-making by precluding stubborn problems or serious criticism from being swept under the rug."[18] Mere conclusory pronouncements are not sufficient. An adequate EIR must contain facts and analysis that provide a road map to how an agency has reached its conclusions.[19]

CEQA also imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.[20] If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures and alternatives sufficient to minimize these impacts.[21] This requirement is the heart of CEQA. Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon an EIR to meet this obligation.

Mitigation measures must be designed to minimize, reduce or avoid an identified environmental impact or to rectify or compensate for that impact.[22] A public agency may not rely on mitigation measures of uncertain efficacy or

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[13] *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 86.
[14] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.
[15] CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.
[16] Pub. Resources Code § 21100, subd. (b)(1); CEQA Guidelines § 15126.2, subd. (a).
[17] CEQA Guidelines § 15382.
[18] *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 733.
[19] See *Citizens of Goleta Valley v. Board of Supervisors*, *supra*, 52 Cal.3d at 568.
[20] Pub Resources Code §§ 21002-21002.1; CEQA Guidelines § 15002, subds. (a)(2)-(3); see also, *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors, supra,* 52 Cal.3d at 564; *Laurel Heights I, supra,* 47 Cal.3d at 400.
[21] Pub. Resources Code §§ 21002.1, subd. (a), 21100, subd. (b)(3).
[22] CEQA Guidelines § 15370.

feasibility.[23] "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.[24]

Mitigation measures must be specific and fully enforceable through permit conditions, agreements or other legally binding instruments.[25] Mitigation measures that are vague or so undefined that it is impossible to evaluate their effectiveness are legally inadequate.[26]

B. Application of Legal Standards to the DEIR

The combined deficiencies in the DEIR result in a document that fails to meet the most basic informational and public disclosure requirements of CEQA. As explained in detail in each of the sections that follow and in the attached technical exhibits, the DEIR does not reflect an independent assessment of the Project, fails to disclose the analytical and technical basis for its conclusions, fails to include an accurate or complete Project description, wholly fails to address a number of Project impacts and inadequately addresses others, fails to identify an environmentally preferred alternative, and fails to evaluate feasible alternatives and mitigation measures. The document is so profoundly defective, it constitutes little more than a "*post hoc* rationalization" designed to secure Project approval "quickly and efficiently."

Rather than "fostering informed decision-making," the DEIR misleads the public and the decision-maker regarding both the true nature of the Project and the true scope and severity of potential environmental and public health effects. The deliberate lack of disclosure in the document effectively sweeps under the rug the complicated issues raised by the Project. The absence of analysis in the DEIR has also improperly shifted to the public the burden of identifying and analyzing the serious environmental and public and worker health issues associated with the proposed Project. The DEIR does not serve "to demonstrate to an apprehensive citizenry that the [agency] has analyzed and considered the ecological implications of its action."[27]

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[23] *Kings County Farm Bureau v. City of Hanford, supra,* 221 Cal.App.3d at 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available).
[24] CEQA Guidelines § 15364.
[25] CEQA Guidelines § 15126.4, subd. (a)(2).
[26] *San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61, 79.
[27] *No Oil, Inc. v. City of Los Angeles, supra,* 13 Cal.3d at p. 86.

IV. THE DEIR REPRESENTS YET ANOTHER ATTEMPT BY HCD TO CIRCUMVENT CEQA THROUGH GRUDGING AND PRO FORMA COMPLIANCE DESIGNED TO SECURE PROJECT APPROVAL "QUICKLY AND EFFICIENTLY"

The Department's reluctant preparation of an EIR and its seeming determination to approve the Project before the potential end of the current Administration have, once again, undermined the integrity of the environmental review process.

This is the third time HCD has prepared a facially inadequate EIR for this Project. HCD prepared legally inadequate EIRs on the statewide approval of CPVC in 1989 and, again, in 1998. Both times, the draft EIRs were heavily criticized for failing to disclose and evaluate significant impacts. The 1989 EIR was abandoned by industry prior to completion. The 1998 EIR was rescinded on the grounds that it was "incomplete."[28] HCD's unwillingness to confront these issues illustrates its continued bias and lack of objectivity.

The similarities between the 1998 EIR process described below and the current 2006 DEIR process are conspicuous. In both cases, an Administration with strong financial ties to the building industry first attempted to approve CPVC statewide without completing the required EIR. When that failed, HCD rushed the preparation of an EIR to ensure completion prior to upcoming gubernatorial elections.

This fast track did not allow for any meaningful assessment of the serious health and environmental issues associated with CPVC installation and use. In both cases, HCD decided not to hire independent experts at the manufacturer's expense. Instead, in both cases, HCD prepared the EIR entirely in-house at taxpayers expense by persons with no expertise in the areas they were evaluating.

The results are also the same. In both cases, HCD's grudging and pro-forma compliance with CEQA resulted in deeply flawed documents that failed to evaluate entire categories of impacts, contained glaring misstatements and failed to provide any meaningful review. Incredibly, the 2006 DEIR is even more flawed and incomplete than the 1998 EIR. HCD's continued refusal to objectively evaluate the health, safety and environmental impacts of their proposal renders the DEIR legally inadequate.

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[28] Appendix 1; see Letter of Settlement Terms, p.1,art. 2.

A. Legal Standards

The courts have emphasized that the integrity of the environmental review process depends upon a genuine, objective and complete assessment of a project's potential environmental effects before the agency has decided to approve a project.[29] The Supreme Court explained the policy rationale for this requirement in *Laurel Heights*:

> A fundamental purpose of an EIR is to provide decision makers with information they can use in deciding *whether* to approve a proposed project, not to inform them of the environmental effects of projects that they have already approved. If post-approval environmental review were allowed, EIR's would likely become nothing more than *post hoc* rationalizations to support action already taken. We have expressly condemned this use of EIR's. [Citation omitted].[30]

The courts have given particular consideration to "how a public agency must approach the environmental planning and approval process the second time around when its original actions have been declared violative of CEQA."[31] In *Laurel Heights*, for example, the Supreme Court put the lead agency on notice that its prior approval of the project would not excuse anything less than full and complete compliance with CEQA requirements:

> The [lead agency] must begin anew the analytic process required under CEQA. We will not accept *post hoc* rationalizations for actions already taken, particularly in light of the fact that those activities were begun in violation of CEQA, even if done so in good faith. To do so would tarnish the integrity of the decision making process required by CEQA . . . .[32]

The courts will not countenance a "grudging and pro forma compliance" with environmental review requirements.[33] The "assessment of environmental impacts . . . must be genuine [and] open to the public,

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[29] *Laurel Heights I, supra,* 47 Cal.3d at p. 394, *Mira Monte Homeowners Assn. v. County of Ventura* (1985) 165 Cal.App.3d 357, 366, *County of Inyo v. City of Los Angeles* (1984) 160 Cal.App.3d 1178, 1185.
[30] *Laurel Heights I*, 47 Cal.3d at p. 394; original emphasis.
[31] *San Franciscans for Reasonable Growth v. City and County of San Francisco, supra,* 209 Cal.App.3d at 1522-1523.
[32] *Laurel Heights I, supra,* 47 Cal.3d at p. 425.
[33] *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 742.

premised upon a full and meaningful disclosure of the scope, purposes, and effect of a project."[34]

"[A] *post hoc* rationalization of a decision already made" defeats the fundamental informational and public disclosure objectives of CEQA.[35] "Only by requiring the [lead agency] to fully comply with the letter of the law can a subversion of the important public purposes of CEQA be avoided . . . ."[36]

B. HCD's Longstanding Resistance to CEQA Compliance

Under pressure from the plastics industry, HCD has, for more than twenty (20) years, attempted to approve CPVC without genuine, complete and objective compliance with CEQA. Indeed, the history of HCD's review of CPVC epitomizes the term "grudging and pro forma compliance."

1. Unfinished 1989 EIR

The statewide approval of CPVC pipe as a new material to deliver drinking water was first proposed to be included in the CPC in 1982.[37] The proposal was based on the inclusion of CPVC in the 1982 Uniform Plumbing Code, the privately published model code upon which the CPC is based.

An Initial Study was then prepared by HCD. The 1982 Initial Study determined that the approval of CPVC would present a potential for numerous significant effects on the environment and thus required the preparation of an EIR.[38]

A *draft EIR* was prepared for this project in 1989, *but was never completed.* All parties – the California Department of Health Services ("DHS"), the Attorney General, HCD attorneys and even the plastic industry – agreed that the 1989 document was woefully inadequate and that substantial additional evaluation and analysis would be required before a final EIR could be released.[39]

Although the 1989 Draft EIR failed to address a wide range of issues and was deficient in its examination of other impacts, the preliminary studies

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[34] *County of Inyo v. City of Los Angeles, supra,* 160 Cal.App.3d 1178, 1185; *see also Mira Monte Homeowners Assn. v. County of Ventura, supra* 165 Cal.App.3d at p. 366.
[35] *Laurel Heights I, supra,* 47 Cal.3d 376, 395.
[36] *People v. County of Kern* (1974) 39 Cal.App.3d 830, 842; *Mira Monte Homeowners v. County of Ventura* (1985) 165 Cal.App.3d 357, 366; *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 71-72.
[37] See Appendices 5 and 101.
[38] Appendix 5, 1982 Initial Study.
[39] Appendix 10.

prepared in conjunction with the Draft EIR nonetheless identified potentially significant impacts on human health and the environment with CPVC use. For example, at the request of HCD, the DHS prepared a study finding that workers installing CPVC pipe would be regularly exposed to toxic substances in excess of legal exposure limits.[40] Preliminary leaching studies also showed the persistence of toxic and carcinogenic compounds in the drinking water carried by CPVC.[41]

Faced with the mounting evidence of potential hazards associated with plastic pipe use and the need for additional study, the plastics industry directed HCD to terminate all work on the 1989 EIR.[42] As a result of this directive, the 1989 EIR was abandoned and left incomplete.

2. HCD's Unlawful Decision to Approve Statewide Use of CPVC Without CEQA Compliance

In 1995, in a compromise aimed at addressing the limited problem of corrosive water and soil conditions causing premature failures of metallic pipe, AB 151 was enacted authorizing by statute the limited use of CPVC for an experimental two-year period.[43] The approval of CPVC was limited to local jurisdictions where metallic pipe was found to fail prematurely. The Legislature also imposed mitigation measures in an attempt to address the public health and worker health hazards associated with CPVC during the experimental use period.[44] The two-year period expired in 1997 and was not renewed.[45]

The same year that AB 151 was enacted, BFGoodrich asked then-Governor Wilson to expand this limited approval statewide, *without any further compliance with CEQA*, by declaring CPVC approved "by edict." BFGoodrich executives made this request orally at a fundraiser in Ohio during Wilson's presidential campaign and, again, in a follow-up letter to Wilson.[46] A month after receiving the BFGoodrich request, Wilson directed HCD to adopt emergency regulations approving CPVC without completing the 1989 EIR and without requiring any measures to protect workers or consumers.[47]

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[40] Appendix 6.
[41] Appendix 7.
[42] Appendix 9.
[43] Health & Saf. Code § 17921.9.
[44] *Id.*
[45] *Id.* However, almost identical provisions were enacted again in 2000 by the HCD regulations that were the subject of the 2000 MND.
[46] Appendix 12.
[47] Appendix 13.

On October 26, 1995, the Department approved proposed regulations authorizing the statewide approval of CPVC.[48] Numerous individuals, members of the Legislature, consumer groups, environmental and labor organizations and plumbing and mechanical contractor associations objected to this proposed approval of CPVC on the grounds that HCD had failed to address the serious public health and environmental issues associated with CPVC potable water pipe raised as a result of the abandoned 1989 EIR.

The Department rejected these arguments and submitted the proposed regulations approving CPVC to the California Building Standards Commission ("CBSC") for adoption as required by the California Building Standards Law.[49] Despite the overwhelming evidence raised in the 1989 DEIR proceedings, HCD representatives testified before the CBSC that the approval of CPVC potable water pipe would not have significant environmental effects. HCD further argued that CEQA did not apply to amendments to the CPC. The CBSC then adopted HCD's proposed regulations.[50]

A coalition of labor, environmental and contractor groups, including many of the current members of the Coalition for Safe Building Materials, challenged the HCD/CBSC approval in court for failure to comply with CEQA. The court found that an amendment to the California Plumbing Code allowing the use of CPVC pipe constituted discretionary action subject to CEQA, and that such action could result in potentially significant environmental effects.[51] On this basis, the court invalidated the CPVC approval and ordered HCD and the CBSC to take no further action to approve CPVC without first completing an Initial Study and either an EIR or a negative declaration.[52]

3. HCD Hastily Prepares 1998 EIR With No Technical Experts, No Industry Funding and Without Addressing the Technical Issues and Evidence Raised by Public Comment

In response to the court's order in *Cuffe*, HCD hurriedly prepared an EIR that was certified in December 1998, in the final days of the Wilson

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[48] Appendix 14.
[49] Health & Saf. Code §§ 18901, *et seq*.
[50] Appendix 15.
[51] *Cuffe v. California Building Standards Commission and California Department of Housing and Community Development* (Sup. Ct. San Francisco County, 1997, No. 977657) Order granting writ of mandate filed Jan. 21, 1997; Appendix 15.
[52] *Cuffe v. California Building Standards Commission and California Department of Housing and Community Development, supra*, Judgment granting peremptory writ of mandate filed April 9, 1997; Appendix 16.

Administration. Internal memos from HCD and the Business, Transportation and Housing Agency ("BTH") released in response to public records requests revealed the clear instruction to HCD that CPVC be *approved* before the end of the Wilson Administration irrespective of any requirements for environmental review.[53] This politically imposed deadline precluded HCD from conducting any genuine analysis of potential impacts.

Unlike the 1989 EIR process, the 1998 EIR was prepared without any outside consultants or technical experts and instead relied largely on information provided by CPVC manufacturers. HCD recognized the need to hire an independent consulting firm with the necessary expertise to evaluate the technical issues involved in this Project during the 1989 proceedings. During those proceedings, HCD contracted with the Stanford Research Institute ("SRI") to prepare the EIR. SRI had in-house expertise in a number of the relevant disciplines, and also subcontracted for additional technical expertise to consider the industrial hygiene, fire safety and other specialized subjects.[54] The costs of the independent consultant were paid for by the Society of the Plastics Industry, representing the product manufacturers that were the proponent of the project.[55]

In the 1998 proceeding, HCD once again recognized its lack of technical competence to evaluate the environmental issues and public and worker health issues associated with the project. The record shows, however, that BTH and HCD were more concerned that engaging an independent consultant would delay the process and jeopardize approval of the project prior to the end of the Wilson Administration.[56]

BTH and HCD even considered having the EIR prepared by another state agency, and discussed the matter with Caltrans. Caltrans representatives indicated, however, that while Caltrans has experience with CEQA procedures and had the "expertise to *manage*" the preparation of an

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[53] After the then-director of HCD reported to BTH of HCD's proposal to engage technical experts and develop a plan for the environmental analysis, the HCD Director was called to a meeting with BTH officials. An internal Agency memorandum reported that the purpose of the meeting was to ensure that HCD understood that its mission was to ensure CPVC approval by December 1998. The BTH representative reported that he "just had a come to Jesus meeting with [the HCD Director]." (Appendix 18.) The memorandum reported that the HCD Director indicated that he had been specifically told by BTH "that he [HCD Director] was individually and personally on the line to manage and make this thing work. That his job, reputation and [expletive] would be ground into nothingness if he failed . . . . [HCD Director] also apologized if he misunderstood his role, and is ready and willing to cooperate to make plastic pipe for residential use a reality." (*Id.*)

[54] Draft EIR, Plastic Plumbing Pipe, August 1989, "1989 Draft EIR," p. 117; see also Appendix 101.

[55] Appendix 9.

[56] Appendix 58.

EIR, it did "not have in-house expertise to deal with the [public] health" issues raised by the CPVC Project.[57]

The internal documents reveal that the solution ultimately proposed was to have the CPVC manufacturers provide the technical support and analysis, and have the document "managed" in-house at HCD. This approach was recommended "given the short time line" and "the willingness and ability of the industry to support the effort with timely responses to our needs."[58]

Concerned about the "litigation risk" of relying on information submitted by the Project proponent, and without in-house technical expertise to review independently such information, BTH/HCD sought advice from the General Counsel of the California Resources Agency, the State's chief legal authority on CEQA.[59] The Resources Agency General Counsel advised against the approach proposed by BTH/HCD, and recommended HCD retain an independent consultant to prepare the EIR.[60] BTH and HCD rejected the advice, citing the potential delays involved in hiring an independent consultant in a memorandum to the Resources Agency General Counsel:

> During the meeting, you indicated that it was not desirable to have a project proponent, or its consultant, perform the environmental analysis. I can certainly understand that it may appear to be somewhat of a conflict of interest and would, therefore, raise some political questions. These considerations can, and will be, an important factor in our decisions. They must, however, be weighed against whether proceeding in that manner presents a *real* litigation risk . . . [¶] This is an issue of some importance, since neither HCD nor CBSC really has staff on board to manage the preparation of a complicated EIR. While I fully endorse your idea to retain a specialist consultant to oversee the project and to ensue [sic] the state's independent review of the draft environmental documents, each additional consultant will require a certain level of expense and personnel time. Minimally, there will be costs and delays involved, if nothing else, in the preparation of bid documents and contracts, the establishment of accounting systems to accept funds from the applicant, the payment of contract expenses, and the preparation of final audits. As a practical matter, it will also be much more difficult to ask the project applicant for

[57] Appendix 60.
[58] Appendix 61.
[59] Appendix 58.
[60] *Id*.

> reimbursement of state costs than to simply ask them to find the appropriate consultants and ensure that quality materials are provided and merely cover the state's billings for the consultant retained to assist in independent review of the prepared materials as you have recommended . . . . [¶] *Since the goal is to accomplish this CEQA review quickly and efficiently*, I am reluctant to reject this alternative out-of-hand unless it presents an unwarranted litigation risk.[61]

BTH/HCD decided subsequently that even the alternative approach of seeking funding from BFGoodrich to retain an independent consultant to review the materials prepared by the project proponent presented too great a risk to the timeline for approval. No industry funding was ever secured and no independent consultant was retained.

Instead, the Department of Food and Agriculture ("DFA") loaned HCD a career civil service employee with experience in CEQA procedures to manage the EIR preparation relying on materials supplied by BFGoodrich. This DFA employee became the principal author of the 1998 EIR, responsible for the ultimate technical evaluations in the documents. A copy of the resumé secured from DFA revealed that the employee had no training or experience in any of the technical areas involved in this project.[62]

As a result, the hastily prepared 1998 EIR contained almost no new analysis from the abandoned and universally discredited 1989 EIR. Furthermore, it concluded that *no* safety measures were required with CPVC installation and use, even though HCD's 1989 EIR, prepared with independent technical consultants, concluded that such safety measures were *essential*. Particularly troubling was the fact that the final EIR reached this conclusion without addressing the technical issues raised in the several hundred pages of comments on the 1998 Draft EIR submitted by consumer, environmental and labor groups, public agencies and officials, plumbing and mechanical contractors and others.

The public comments on the 1998 EIR were highly critical of the cursory and biased treatment of the serious health and environmental issues associated with CPVC drinking water pipe. Nonetheless, HCD followed its orders and certified the obviously inadequate EIR. Not surprisingly, this led to another lawsuit.

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[61] *Id.*; first emphasis in original, second emphasis added.

[62] Appendix 62.

4. 2000 Settlement Rescinding "Incomplete" 1998 EIR and Allowing Very Limited Approval of CPVC

Given the blatant deficiencies of the 1998 EIR, HCD agreed to settle the lawsuit in 2000. As part of that settlement, HCD rescinded the certification of the EIR and expressly admitted that the document was "incomplete."[63] The settlement provided that the parties to the lawsuit would not challenge a proposed Mitigated Negative Declaration on the limited approval of CPVC, *even if it were deficient*.[64] In return, the Project analyzed by the 2000 MND and approved by HCD was limited to granting local building officials the discretionary authority to approve CPVC only where the official determines that there will be a premature failure of metallic pipe due to existing water or soil conditions. Furthermore, express mitigation measures were imposed in an attempt to address public health and worker health.

As a result of the settlement, both the 1989 and the 1998 EIRs examining the potential impacts of statewide approval of CPVC were left unfinished. The settlement deems the 1998 EIR incomplete and expressly provides that nothing in the settlement agreement is intended to affect any future action by the state related to the possible approval of CPVC on a statewide basis.

5. HCD Attempts to Approve Statewide Use of CPVC Through Proposed 2000 Addendum Without Completion of an EIR

In 2005, HCD attempted yet again to authorize the statewide use of CPVC without completing an EIR. This time HCD claimed that completion of an EIR was unnecessary due to its argument that statewide approval of CPVC could be based on an "Addendum" to the 2000 MND allowing the restricted use of CPVC. This attempted backdoor approval violated both the spirit of the 2000 settlement agreement and the letter of CEQA law.

Furthermore, the proposal to use the inapplicable addendum process mirrored the Wilson Administration's 1995 attempt to allow the statewide approval of CPVC without environmental review through the improper use of the emergency regulation process. As discussed above, the Wilson Administration directed HCD to approve CPVC without completing an EIR at the urging of CPVC manufacturer BFGoodrich during Wilson's short-lived presidential campaign. The 1995 approval was overturned as unlawful in the

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[63] Appendix 1; See Letter of Settlement Terms at p. 1, art. 2.

[64] Appendix 1; See Letter of Settlement Terms at p. 2, arts. 4 & 5.

1997 *Cuffe* Decision. This then led to the hastily prepared, inadequate 1998 EIR that was rescinded in 2000.

In the case at hand, HCD's attempt to approve the statewide use of CPVC without environmental review in 2005 occurred after Governor Schwarzenegger promised the California building industry during his campaign that he would approve CPVC pipe.[65] Coincidently, the building and development industry is Governor Schwarzenegger's number one source of campaign contributions.[66]

The proposed 2005 Addendum met with broad public opposition. Various municipalities, state legislators and a wide range of environmental, consumer and labor groups submitted comments opposing the Addendum. Moreover, the Addendum was facially unlawful because the statewide approval of CPVC was beyond the scope of the limited approval of CPVC analyzed in the 2000 MND. The Addendum also failed to meet the criteria for an addendum set forth in CEQA Guidelines section 15162 and represented an improper piecemealing of the Project. As a result of the widespread opposition and legal deficiencies, HCD withdrew its proposed Addendum and agreed to prepare an EIR prior to expanding CPVC approval statewide.

6. HCD Hastily Prepares the 2006 DEIR With No Technical Experts, No Industry Funding and Without Addressing the Technical Issues and Evidence Raised by Public Comment

Rather than taking the time to engage expert consultants and commission the necessary studies, HCD hurriedly prepared the present, inadequate EIR. The apparent decision to emphasize timely approval over actual investigation and analysis is evident in the striking parallels between the 1998 proceedings and the present proceedings. As in 1998, HCD appeared to be under pressure to complete the 2006 EIR prior to the upcoming gubernatorial elections.

HCD recognized during the preparation of the DEIR that it did not have a staff with the technical qualifications to consider the drinking water, industrial hygiene, air quality, fire safety, and other highly specialized issues involved in this Project.[67]

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[65] Appendix 3.

[66] According to the watchdog group ArnoldWatch.org , Governor Schwarzenegger has raised more special interest money than any California governor in history, almost $16 million of it from the building and development industry. Appendix 4.

[67] See Appendix 54 (testimony of Dennis Beddard, chief counsel for HCD, California Building

Nonetheless, HCD again decided: (1) to prepare the DEIR in-house, without any substantive review by state technical staff; (2) not to engage an independent technical consultant to meaningfully analyze the technical issues; (3) not to secure industry funding to pay for the DEIR, including any needed studies or independent expert evaluation; and (4) to ignore the extensive comments and evidence that had been previously submitted on this issue.[68]

C. Result is a Grudging and Pro Forma Compliance Designed to Secure Project Approval "Quickly and Efficiently"

The DEIR reflects little more than a *post hoc* rationalization of the Department's prior decision to approve the Project. In an approach almost identical to what took place during the preparation of the grossly deficient, decertified 1998 EIR, the 2006 DEIR review process once again was designed to achieve Project approval "quickly and efficiently," rather than to evaluate thoroughly and objectively the potential environmental and public health dangers of CPVC pipe.

As a consequence, HCD has once again failed to provide the resources and expertise necessary to produce a meaningful and substantive analysis of the issues. It has resulted in an assessment that is not genuine or objective, that lacks foundation, and that has given short shrift to the serious public health and environmental issues associated with the installation and use of CPVC potable water pipe.

HCD appears both unwilling and unable to learn from its past mistakes. HCD continues to resist and refuse to comply with CEQA and to address the issues and evidence that have been laid out in exhausting detail during past proceedings. HCD's longstanding unwillingness to genuinely confront these issues illustrates that it has prejudged the issues. The result is a grudging and pro forma compliance with CEQA designed solely to secure project approval "quickly and efficiently."

Standards Commission meeting (July 27, 2006)).

[68] See Section V.B, *infra*.

V. THE DEIR DOES NOT REFLECT AN INDEPENDENT REVIEW AND ANALYSIS BY THE LEAD AGENCY

The DEIR fails to comply with CEQA's requirement that the document reflect the lead agency's *independent* review and analysis of potential environmental effects.[69] As demonstrated below, HCD did not utilize technical staff qualified to give an independent assessment of the issues.

A. Legal Standards

CEQA requires that the lead agency independently review and analyze the issues identified in an EIR.[70] It also requires that an EIR reflect the lead agency's independent judgment.[71] CEQA Guidelines specify further that a lead agency must subject information submitted by others to the lead agency's own review and analysis before using that information in an EIR.[72]

In order to fulfill CEQA's mandate for an independent review and analysis of potential environmental effects, the lead agency obviously must have the technical capability to conduct such review and analysis. CEQA Guidelines expressly require that an EIR reflect an interdisciplinary approach and consideration of qualitative as well as quantitative factors that is conducted by competent individuals in the relevant disciplines.[73] Accordingly, the courts have required that agencies possess the appropriate expertise or seek expert assistance when analyzing issues or making determinations under CEQA that demand specialized knowledge.

In *Sundstrom v. Mendocino County*, the court rejected a mitigated negative declaration on the grounds that the County's planning staff did not have the expertise necessary to determine that a potentially significant effect would not occur. In particular, the *Sundstrom* court rejected the planning staff's dismissal of potential vegetative changes resulting from the project, explaining:

> What will be the effect of this uninterrupted soil humidity on an ecosystem adapted to seasonal drought? CEQA exists to compel local agencies to address questions like this. As the implementing guidelines recognize, CEQA's objective of preserving "high quality ecological systems" demands "an

[69] Pub. Resources Code § 21082.1, subd. (c).
[70] Pub. Resources Code § 21082.1, subd. (c)(1).
[71] Pub. Resources Code § 21082.1, subd. (c)(2).
[72] CEQA Guidelines § 15084, subd. (e).
[73] CEQA Guidelines § 15142.

> interdisciplinary approach which will ensure the integrated use of the natural and social sciences and the consideration of qualitative as well as quantitative factors." (CEQA Guidelines § 15142; Pub. Resources Code § 21000, subd. (b).) Some degree of interdisciplinary consultation may be necessary in an initial study as well as in preparation of an EIR. *Without seeking the opinion of, say, a qualified botanist or ecologist, the Planning Commission staff was not in a position to dismiss the possibility of potentially adverse vegetative change.*[74]

The courts have also held that agencies may rely on staff analysis and opinion when making CEQA determinations only where the staff is qualified to conduct the analysis or render the opinion. In *Greenebaum v. City of Los Angeles*, for example, the court affirmed the adequacy of an EIR in the face of conflicting evidence over the proposal's compliance with the City's General Plan only after finding that the lead agency's independent review was conducted by qualified experts. Appellants had submitted expert testimony that the Project was not consistent with the General Plan, while the City planning department concluded otherwise. The court found that the planning department staff "qualify as experts since this type of analysis is their business."[75]

Similarly, in *Stanislaus Audubon Society v. County of Stanislaus*, the court rejected the defendant's contention that the planning department was not qualified to render an opinion regarding a project's potential growth-inducing impacts. The court found that the planning department's determination "should be given sufficient weight since its staff members are professionals in the field."[76] The court also found that it was not unreasonable to presume that the department which was "relied upon by the County to study and evaluate development proposals, in light of its prior experience in the area, has *expertise upon the subject*, is *qualified to assess the data presented* and to render opinions thereon."[77]

B. Application of Legal Standards to the DEIR

The DEIR fails to meet the independent review requirements of CEQA because HCD: (1) did not retain independent consultants; (2) did not have the in-house expertise to review and analyze independently the technical issues associated with the proposed project; and (3) did not involve state technical experts in the substantive review.

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[74] *Sundstrom v. Mendocino County* (1988) 202 Cal.App.3d 296, 312; emphasis added.
[75] *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App.3d 391, 413
[76] *Stanislaus Audubon Soc'y v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153
[77] *Id.* at 155; emphasis added.

The proposed statewide approval of CPVC pipe to carry potable water raises highly technical issues involving several disciplines and specialized fields, including, at a minimum, chemistry, toxicology, industrial hygiene, drinking water quality, air quality, solid waste disposal, and fire safety. HCD's statutory responsibilities for state housing programs and policies do not require staff with technical capabilities in these areas.[78]

As discussed in detail in Section IV.B, *supra*, HCD recognized, both in the 1989 proceeding and in the 1998 proceeding, that its independent review and analysis of the technical issues raised by the Project would require technical expertise outside the Department. Typically, the way an EIR process is conducted in such cases is that the project proponent funds the technical studies, which are typically prepared by outside technical consultants.[79] That's the process that HCD followed in 1989, but failed to abide by in 1998.

HCD again recognized during the preparation of the 2006 DEIR that it did not have a staff with the technical qualifications to consider the drinking water, industrial hygiene, air quality, fire safety, and other highly specialized issues involved in this Project. Dennis Beddard, chief counsel for HCD, testified at the July 27, 2006 CBSC meeting that HCD is "not set up to do environmental impact reports or assessments" of potential plastic pipe impacts.[80] This testimony occurred just five days prior to the release of the DEIR. This lack of expertise is not unexpected since these issues are outside of HCD's normal regulatory and jurisdictional responsibility.

Nonetheless, HCD has repeated the error of 1998 in this proceeding. HCD has again decided not to seek industry funding for an independent consultant to prepare the DEIR, or for technical consultants to assist the Department in conducting its independent analysis of the issues.

Instead, the 2006 DEIR was prepared entirely by two in-house attorneys, HCD chief counsel Beddard and HCD staff attorney Robin Gilb.[81] A public record request for their resumés revealed that neither attorney has any technical expertise in worker health, air quality, leaching, fire, solid waste or any other potential impacts that had previously been identified by

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[78] *See* Health & Saf. §§ 50400, *et seq*.
[79] See Pub. Resources Code § 21089; CEQA Guidelines § 15045.
[80] Appendix 54.
[81] A third attorney is also listed as a preparer of the document, but her only role was providing a non-substantive edit for style and grammar. See Appendix 23 (E-mail from Suzanne Moser to Thomas Enslow (8/16/2006)).

commentators.[82] Of course, no one person could be expected to possess this range of expertise.

The documents provided in response to requests for all supporting materials and correspondence related to the preparation of the DEIR reveal absolutely no other agency or outside experts substantively evaluated the Project's potential impacts.[83] No industry funding was ever secured and no independent consultant was retained.

While the DEIR does include a long list of persons "consulted," the record demonstrates that, with only one exception, none of the persons "consulted" by HCD provided any *written* report, analysis or evaluation to HCD on any of the Project impacts evaluated in the DEIR.[84] The DEIR contains no citations, footnotes or other references to any substantive evaluation or analysis of the CPVC issues by state technical experts or outside parties other than responses to requests for raw data regarding future housing projections, CPVC market estimates, and average primer and cement usage.[85] Moreover, HCD's response to our request for "all documents referenced or relied upon to support conclusions in the draft Environmental Impact Report" contained no substantive evaluations or analyses by state technical experts or outside parties.[86]

The one exception mentioned above was a recommendation regarding the appropriate thresholds of significance for evaluating air quality impacts provided by staff at the California Air Resources Board ("CARB").[87] This recommendation was the only substantive recommendation submitted to HCD by state technical staff regarding evaluation of Project impacts. Remarkably, the DEIR's determinations with regard to the appropriate thresholds of significance for evaluating air quality impacts are *contrary* to this recommendation.

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[82] In addition to their law degrees, Mr. Beddard has a B.A. in political science and a Masters in Public Administration and the Ms. Gilb has a B.S. in agriculture with some molecular biology experience as a lab technician. Appendix 26.

[83] Appendix 66; see also Appendix 83.

[84] The DEIR does contains a reference to a 1998 letter from DHS stating that CPVC potable water pipe has little potential to contribute significantly to the formation of disinfection byproducts. (DEIR at p. 60, fn. 39.) The formation of disinfection products, however, is not one of the issues raised by commentators during HCD's 2005 CPVC proceedings. Moreover, this letter is out of date and does not evaluate the comments and evidence that were submitted during the 2005 Addendum proceedings.

[85] See Appendix 39 (March 1. 2006 Public Record Request to HCD for "All Documents Related to CPVC, PEX and PEX-AL-PEX" and August 1, 2006 Request to HCD for "Documents Referenced in the Draft EIR on the Statewide Approval of CPVC"); see also Appendices 66 and 83.

[86] *Id*.

[87] Appendix 55; DEIR at p. 48.

It is also clear from the administrative record that none of the persons "consulted" by HCD were provided a complete Project description or provided copies of the extensive expert comments, technical reports and other substantial evidence that required evaluation.[88] A meaningful analysis of the Project's impacts by these persons would have been impossible without access to, and evaluation of, the relevant underlying data, studies and reports.

As discussed in Section IV, *supra*, HCD's reluctance to commit to genuine participation by state experts or to hire independent outside consultants appears motivated once again by a determination to stay on schedule and not jeopardize the approval timeline set for the Project. As a result, the DEIR fails to adequately assess the Project's impacts and its ultimate determinations are arbitrary and lack foundation.

VI. HCD IMPROPERLY RELIED ON THIRD-PARTY ASSURANCES IN FINDING NO SIGNIFICANT IMPACT ON DRINKING WATER WITHOUT CONDUCTING ANY INDEPENDENT REVIEW

A. HCD Was Required to Independently Review and Analyze the Adequacy of NSF Standards and Testing

Even assuming the lead agency possessed the expertise to analyze independently the technical issues and render judgments regarding the significance of potential drinking water impacts, it failed to exercise its independent judgment. To support its finding of no significant impact on drinking water safety, the DEIR relies on the levels of contamination accepted by NSF, and on the NSF process for testing and certification of CPVC pipe.[89] The record conclusively demonstrates, however, that HCD never *independently* evaluated the levels of contamination accepted by NSF to determine their safety, never reviewed the actual levels of leachate found in NSF testing and never reviewed the results of the NSF testing with regard

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[88] Appendix 66. Even the scoping notices for the Project failed to provide sufficient information to permit an informed response from other state agencies. The January 11, 2006 Scoping Notice and the April 3, 2006 Agency Invitation to Scoping Meeting both fail to identify numerous potential impacts. (DEIR at Appendices B & C.) They fail to disclose potential solid waste impacts, drinking water contamination, fire safety impacts, or manufacturing impacts and others. They also fail to adequately describe the project. The notices do not disclose that low-VOC cements will be required, do not disclose the massive scope of new CPVC installations that will be allowed under the Project, and do not disclose that the Project will eliminate the discretion of local jurisdictions to disapprove the use of CPVC.

[89] DEIR at pp. 52, 53, 55, 59 and 60.

to the CPVC pipe it is considering in this Project. HCD's reliance on a private entity for the fundamental health risk determination without any independent review of that determination violates CEQA's requirement that the DEIR reflect the lead agency's independent judgment.[90]

In each of HCD's past attempts to conduct a CEQA evaluation of CPVC, it has been criticized for relying on CPVC's compliance with standards set by NSF International without independently reviewing the underlying basis for the NSF standards and the adequacy of the NSF testing and certification program to ensure that CPVC will have no significant impacts.

NSF is a private organization that tests products. NSF/ANSI Standard 61 certifies that drinking water system components have been evaluated by NSF to meet certain undisclosed performance and safety evaluations. NSF/ANSI Standard 14 similarly certifies plastic piping system components and related materials.

NSF, however, expressly disclaims any responsibility for the decision whether to use an NSF-certified product, does not make its test results available for others to review, and limits its testing protocols based on undisclosed assumptions derived from information provided by manufacturers.

B. NSF Certification Does Not Relieve the Lead Agency From Its Duty to Examine Independently the Evidence That CPVC May Have an Adverse Impact on the Environment

HCD may not rely on NSF/ANSI standards without independently reviewing the underlying data and independently assessing the evaluation process. Such reliance on a private entity's judgment without any independent review violates CEQA's requirement that a lead agency exercise its own independent judgment.

In amending the CPC, HCD may require an NSF *listing* for CPVC pipe under the authority of the California Housing Law and the California Building Standards Law. However, HCD's authority to require compliance with ANSI, NSF, IAPMO, ASTM or other materials standards, does not alter its obligation under *CEQA* to conduct an independent review and analysis of potentially significant effects when preparing an EIR.[91]

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[90] See Section V, *supra*.

[91] See *Plastic Pipe and Fittings Assn. v. California Building Standards Com'n* (2004) 124 Cal.App.4th 1390, 1399-1400 (appellate court upheld requirement of the California Building Standards Commission to independently review the potential environmental impacts from

Even apart from CEQA, a determination of the level of public drinking water contamination that would be allowed by the regulatory approval of a plumbing product coming in contact with that water constitutes an exercise of police power that cannot be delegated to a non-governmental entity.[92] HCD's reliance on NSF's current and future standards would be constitutionally permissible only if HCD independently evaluated the adequacy of such standards to protect California drinking water consumers.[93]

HCD's response to the public record request for supporting documents demonstrates that HCD never *independently* evaluated the basis for the NSF certifications. HCD has not evaluated the levels of contamination accepted by NSF to determine their safety and never reviewed the actual levels of leachate found in NSF testing.

Nonetheless, HCD repeatedly relies upon the NSF standards as a basis for finding that the statewide approval of CPVC would have no potential impact on drinking water quality.[94] This blind reliance on NSF standards violates CEQA's requirement for the exercise of independent judgment by the lead agency, and violates the constitutional bar against the delegation of police powers to non-governmental bodies.

C. HCD Failed to Independently Review the Underlying Basis for the NSF Standards

The DEIR claims that "Based on review of the NSF standards and testing, the lead agency considers NSF testing and certification [SIC] meet existing standards to provide a reasonable and conservative presumption and assurance of safety."[95] This statement lacks any foundation, citation to evidence or description of the analytic process that led to this conclusion. Moreover, it is contrary to evidence in record.

A close look at HCD's "consultation" with NSF reveals that HCD has once again merely relied upon standards established by NSF without ever obtaining or independently reviewing the studies and data that were used to establish the NSF standards and without evaluating the NSF testing and certification process. On August 1, 2006, counsel for commentators sent HCD

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the approval of PEX plastic potable water pipe despite the fact that PEX met NSF standards).

[92] 63 Ops.Cal.Atty.Gen. 566 (1980).

[93] *Id.* at pp. 580-582.

[94] DEIR at pp. 53, 57 & 59.

[95] DEIR at pp. 59-60.

a request for all documents referenced in, or relied upon, to support the conclusions in the DEIR, including:

> all correspondence, reports, studies, expert opinions, e-mails, memos, notes of meetings, notes of telephone conversations, all other notes, and any other documents consulted in the preparation of the DEIR, including any notes, correspondence or other documents obtained as a result of HCD's consultation with any consultants, experts, state agencies, local agencies, federal agencies, organizations, manufacturers, trade groups or any other persons or entities with whom HCD has consulted in preparation of the DEIR.[96]

The documents provided in response to this request contained no evidence that HCD obtained or independently evaluated the studies and data that served as the basis for the NSF standards or that it reviewed NSF testing protocols or results regarding CPVC potable water piping. The only documents that HCD obtained from NSF were: (1) its NSF/ANSI 14 and NSF/ANSI 61 standards; (2) its general certification policies for plastic pipe and drinking water system components; and (3) its general standards development and maintenance policies.[97]

The NSF/ANSI 14 and NSF/ANSI 61 standards set forth the health risk assessment methodology applied by NSF in setting allowable levels of contaminants in drinking water. While examination of that methodology is an important starting point in HCD's evaluation of the NSF action level determinations, a review of the methodology alone is not sufficient to determine the adequacy of those levels in protecting public health. NSF's analytical method could produce a wide range of action level determinations depending on the specific toxicity data and assumptions used in applying that method to the analysis of particular contaminants. A review of the underlying toxicity studies and data considered by NSF in applying the NSF/ANSI 14 and NSF/ANSI 61 methodology is essential to any meaningful review of the adequacy of the NSF determinations regarding allowable levels of contamination.

HCD's response to our request for supporting documents revealed that HCD never requested or obtained copies of the underlying toxicological studies and data considered by NSF in conducting health risk assessments to establish each of the NSF Maximum Allowable Levels ("MAL"), Maximum Drinking Water Levels ("MDWL"), Short Term Exposure Levels ("STEL") or any other NSF action level relied upon or cited in the DEIR. HCD also did

[96] Appendices 39 & 66.
[97] Appendices 66 & 83.

not request or obtain copies of test reports, data or other information showing the levels or concentrations of leachate from CPVC pipe and fittings found by NSF through its NSF/ANSI 61 testing and certification program with respect to organotins, acetone, cyclohexanone, methyl ethyl ketone, tetrahydrofuran, or any other drinking water contaminant considered in the DEIR. Likewise, HCD failed to request or obtain copies of reports, data or other information showing the calculations performed by NSF to estimate "at-the-tap" levels of exposure by "normalizing" contaminant levels determined in the laboratory with respect to organotins, acetone, cyclohexanone, methyl ethyl ketone, tetrahydrofuran, or any other drinking water contaminant considered in the DEIR.

Accordingly, there is no evidence in the record that lead agency independently evaluated the review of the toxicity studies and data underlying the applicable NSF standards. Indeed the DEIR fails to even disclose what levels of chemical leaching from CPVC are permitted under NSF standards.

D. The EPA Expressly Cautions Federal and State Jurisdictions from Relying on NSF Standards in Lieu of Independently Evaluating the Acceptability and Safety of Drinking Water Pipe, Fittings and other Materials

Rather than independently evaluate the basis for the NSF standards, the DEIR suggests that it may rely on NSF certification because such an approach has been endorsed by the United States Environmental Protection Agency ("EPA"). This suggestion lacks foundation and is contrary to the evidence in the record.

The DEIR first suggests that its reliance is justified because "Certification against NSF/ANSI 61 has replaced the EPA Additives Advisory Program for drinking water system components."[98] This statement is misleading and incomplete. The EPA Additives Advisory Program was a discretionary program, not required under statute, that EPA was no longer able to continue because of resource constraints and the need to implement mandatory provisions of the Safe Drinking Water Act.[99] The EPA thus helped develop a private version of the program. The EPA, however, expressly stated that the private advisory program does not take the place of the authority and responsibility of federal or state jurisdictions to "determine the acceptability of drinking water additives."[100]

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[98] DEIR at p. 53.
[99] 53 Fed. Reg. 130 (July 7, 1988) at pp. 25587-25588.
[100] *Id*.

The DEIR then states that "[t]he EPA recognizes NSF/ANSI Standard 61 as the criteria for determining the health effects acceptability of water contact materials as referenced in Federal Register Notices Vol. 53, No. 130 July 7, 1988 and Vol. 62, No. 163 August 22, 1997.)"[101] This claim is misleading, unsupported by the references contained in the DEIR and is contrary to the evidence in the record.

As stated above, the EPA in "Federal Register Notices Vol. 53, No. 130 July 7, 1988" expressly states that these privately created standards *do not* take the place of the authority and responsibility of federal or state jurisdictions to determine the acceptability of drinking water contact materials.[102] The Federal Register Notice states: "EPA recognizes the authority and responsibility of the individual States to determine the acceptability of drinking water additives. Hence, it is up to the states and the utilities to determine the suitability of any "third-party" certification."[103] The Federal Register Notice goes on to warn that the "competency and reliability of organizations claiming to conduct evaluations under these standards" are not evaluated or warranted under this program.[104]

The DEIR's reference to "Federal Register Notice Vol. 62, No. 163 August 22, 1997" also fails to support its claim. First, this notice is not applicable. It involves the specific development of "lead" leaching standards from new plumbing and fittings fixtures. Unlike the NSF/ANSI 61 standards related to plastic pipe, the EPA actively participated in the development of the lead standard due to specific statutory requirements limited to these particular lead standards. These "lead" standards were developed pursuant to Section 1417 of the Safe Drinking Water Act, which expressly directed EPA to assist the development of voluntary standards and testing protocols. Second, this Notice states that these privately developed standards do not affect "the authority and responsibility of the individual States to determine the acceptability of drinking water additives."[105]

Furthermore, not even the EPA will rely on NSF's application of the EPA-approved methodology without an independent review of the underlying toxicological data. EPA's position on this issue was clearly stated in its ongoing consideration of organotins as a priority contaminant for regulation under the Federal Safe Drinking Water Act ("SDWA").

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[101] DEIR at p. 53.
[102] 53 Fed. Reg. 130 (July 7, 1988) at pp. 25587-25588.
[103] *Id.* at pp. 25588.
[104] *Id.*
[105] *Id.* at p. 25588.

Pursuant to the SDWA, EPA has established a Drinking Water Contaminant Candidate List ("CCL") identifying priority contaminants for drinking water research and monitoring, and which also serves to identify contaminants for drinking water regulation.[106] After careful review and analysis, EPA adopted a final list of 50 chemical contaminants out of an original list of 391 contaminants considered.[107] Organotins were listed by EPA as a contaminant of special concern.[108]

After the draft CCL was published on October 6, 1997, EPA received four comment letters arguing that organotins should be deleted from the list; three letters were submitted by industrial manufacturers of organotin stabilizers for CPVC pipe manufacture, and one letter was submitted by NSF.[109] NSF submitted detailed comments describing its health risk assessment process and testing and certification program with respect to organotins, and emphasizing reliance on NSF by other public agencies.[110] On these grounds, NSF argued that EPA should delete organotins from the CCL because NSF's program assured protection of the public health.[111]

EPA rejected NSF's arguments and listed organotins on the final CCL:

> The Agency is aware of the NSF certification program, and has noted that many States require the use of NSF-certified material in the construction of new buildings. The Agency agrees with the NDWAC Working Group recommendation that *an assessment of the toxicological data underlying the action levels established by the NSF needs to be made* along with assessment of other available information on organotins, before these compounds can be disregarded as of concern. The Agency requested this information from the NSF, and learned that due to confidentiality agreement, NSF cannot disclose this information, therefore we have not yet been able to assess the toxicological data. [¶] [extended discussion of concerns regarding organotin leaching from CPVC pipe] [¶] In view of these concerns, the Agency believes that organotins, including mono- and diorganotins, should remain on the CCL until the Agency can perform *its own in-depth evaluation of the occurrence and toxicological data* of the contaminants of this class.[112]

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[106] 62 Fed.Reg. 193 (Oct. 6, 1997).
[107] 63 Fed.Reg. 40 (March 2, 1998).
[108] 62 Fed.Reg. 193 (Oct. 6, 1997), p. 52211 and 63 Fed.Reg. 40 (March 2, 1998), p. 10276.
[109] 63 Fed.Reg. 40 (March 2, 1998), p. 10282.
[110] Appendix 27.
[111] *Id.*
[112] 63 Fed.Reg. 40 (March 2, 1998), p. 10282; emphasis added.

Like the EPA, HCD simply could not independently assess the adequacy of the NSF standards and testing program in protecting public health without reviewing the underlying toxicity and testing data. The administrative record, however, reveals that HCD has not performed "its own in-depth evaluation of the occurrence and toxicological data of the contaminants of this class."

E. NSF Certification is Inadequate to Refute the Evidence That CPVC May Have an Adverse Impact on the Environment

The DEIR clams that "[NSF/ANSI 61 and NSF/ANSI 14] certifications can only result from findings that concentrations of leached materials from CPVC plumbing system products, materials, and ingredients (including all chemicals, contaminants, or impurities in the product) that came in contact with the water did not result in any unacceptable toxicological levels."[113] This statement lacks foundation, citation to evidence or a description of the analytic process that led to this conclusion. Moreover, it is contrary to the evidence in the record.

1. NSF Expressly Disclaims any Responsibility for Providing Safety Requirements

NSF itself does not claim that its certification is adequate to ensure that there is no potential for any significant impacts from the use of CPVC. NSF expressly disclaims responsibility or liability to "*anyone*" relying on its standards or testing and emphasizes the importance of independent judgment and regulatory action by any public agency relying on its standards:

> NSF International ("NSF"), in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of NSF represent its professional judgment. *NSF shall not be responsible to anyone for the use of or reliance upon this standard by anyone.* NSF shall not incur any obligations or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this standard. . . . Participation in NSF's standards development activities by regulatory agency representatives (federal, local, state) shall not constitute their agency's endorsement of NSF or any of its standards.[114]

[113] DEIR at p. 59.

[114] Appendix 2 at p. iii.

Such a disclaimer underscores the need to conduct an independent assessment of the basis for those standards. Without such an assessment it is impossible to know what these standards actually mean and to what extent they can be relied upon to resolve effects that are potentially significant.

2. The Record Contains Ample Evidence That NSF Standards and Testing Are Not Adequate to Establish a Product's Safety and Lack of Impact on the Environment

The DEIR's reliance upon NSF standards without independently reviewing the underlying basis for the standards and the adequacy of NSF's testing and certification program is not merely a technical, legal defect. As discussed in detail in the technical comments attached as exhibits to this letter, the NSF standards, testing and certification process are not adequate to ensure protection of the public health.

The attached expert comments, including the 1998 Smith and Lopipero comments and the 1998 and updated 2006 Thomas Reid comments demonstrate numerous substantive deficiencies in NSF standards. These deficiencies include the following:

1. Many of NSF allowable levels of contamination are too high to adequately protect human health.
2. NSF relies on Manufacturer's assertions of product formulas and fails to independently test materials as done in some foreign countries.
3. NSF accepts "range formulas" without disclosure of actual formulas to NSF.
4. NSF "normalization calculation" to estimate "at-the-tap" exposures significantly underestimates exposures for residential plumbing installations.
5. NSF expressly retains the discretion in applying NSF 61 to certify products even where the exposure concentration is in excess of the established MAL for the contaminant.
6. Entire NSF testing and certification process is confidential.
7. NSF is private entity and not accountable to public.
8. NSF's operations are almost entirely funded by manufacturers of plumbing products listed and tested by NSF.

9. NSF standards for unregulated contaminants are established largely on the basis of toxicity information and studies provided by and owned by the manufacturers of the regulated products.

10. NSF's standards setting and testing-processes are dominated by the industrial participants that have an economic stake in the results of the process.

These deficiencies demonstrate that certification under NSF/ANSI standards 14 and 61 may not provide sufficient assurances regarding CPVC's chemical leaching potential. Without an independent review of the actual product formula data, the results of the normalization calculations, the actual performance test results and information on the number of products certified even after failing the testing process, and without ongoing disclosure of this data and information to the public and state regulators, HCD simply has no basis to conclude that the NSF process will protect drinking water consumers, either currently or in the future.

The DEIR relies on standards established in a non-public, confidential process, by a non-governmental body without conducting any independent assessment of the basis for those standards, or their adequacy in protecting public health. The non-governmental body in turn disclaims any responsibility or liability to the public or public regulatory agencies relying on such standards. CEQA's requirement for the exercise of independent judgment by the lead agency, and the constitutional bar against the delegation of police powers to non-governmental bodies, are both intended to prevent just this kind of avoidance of public accountability.

VII. THE DEIR'S RELIANCE UPON THE FINDINGS IN THE 2000 MND IS IMPROPER AND LACKS FOUNDATION

HCD justifies its failure to fully disclose, evaluate or mitigate all impacts, other than air quality, on the grounds that these impacts were previously analyzed in the 2000 MND.[115] In essence, HCD is attempting to tier off the 2000 MND in order to avoid disclosing and evaluating the overwhelming evidence that the expanded approval of CPVC may result in: increased worker health and safety impacts; drinking water contamination; aquatic toxicity impacts; premature rupture manufacturing impacts; solid waste impacts; and fire hazard impacts. The DEIR's reliance upon the findings in the 2000 MND, however, violates CEQA's restrictions on the use of tiering.

[115] See, e.g., DEIR at pp. 2, 4-5, 51, 61, 65.

CEQA defines "tiering" as "using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations *on narrower projects*; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.[116] "Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy, or program to an EIR or negative declaration for another plan, policy, or program of *lesser scope*, or to a site-specific EIR or negative declaration."[117] "When tiering is used, the later EIRs or negative declarations shall refer to the prior EIR and state where a copy of the prior EIR may be examined. The later EIR or negative declaration should state that the lead agency is using the tiering concept and that it is being tiered with the earlier EIR."[118]

The DEIR's reliance upon the 2000 MND fails to meet any of these requirements.

A. An EIR Cannot Be Tiered From a Negative Declaration

First, an EIR cannot be tiered from a mitigated negative declaration as a first tier document. CEQA does not allow a mitigated negative declaration to excuse a lead agency from adequately analyzing the reasonably foreseeable significant environmental effects of a later project.[119] Tiering is only appropriate "when the sequence of analysis is from an EIR . . . to an EIR or negative declaration."[120] Accordingly, the 2000 MND may not be relied upon by the DEIR in lieu of actual evaluation of the Project's potential impacts.

B. The DEIR May Not Tier From a Prior Project With a Narrower Scope

Second, the DEIR may not tier from the 2000 MND because the project it analyzes is significantly broader in scope than the project analyzed in the 2000 MND. A later EIR may only tier from a prior EIR if: (1) the prior EIR is a "broader EIR" prepared for a "general plan, policy, or program," and (2) the later EIR involves a "narrower project" of "lesser scope."[121] Because the Project proposed by the DEIR differs substantially in scope and content from

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[116] CEQA Guidelines § 15152, subd. (a), emphasis provided.
[117] CEQA Guidelines § 15152, subd. (b), emphasis provided.
[118] CEQA Guidelines, § 15152, subd. (g); § 21094 , subd. (e).
[119] CEQA Guidelines § 15152.
[120] *Id.*; see also Pub. Resources Code § 21094; see also *Gilroy Citizens for Responsible Planning v. City of Gilroy* (2006) 140 Cal.App.4th 911, 929-930.
[121] *Id.*

the project reviewed in the 2000 MND, the DEIR may not rely on the 2000 MND for its evaluation of the Project's potential impacts.[122]

When the scope of a project expands, it becomes a new project, subject to separate CEQA review, and the agency may not rely on a prior CEQA document. In *Apartment Association of Greater Los Angeles v. City of Los Angeles,* the City of Los Angeles adopted a permanent housing code enforcement program aimed at the repair of residential rental units found to be in violation of the City of Los Angeles' building, safety, fire or health regulations.[123] The permanent enforcement program replaced a nearly identical *interim* code enforcement program.[124] The court held that the adoption of the permanent housing code enforcement program was a new "project" under CEQA because it was "*broader in scope*" than the interim enforcement program.[125] The court held, "The very fact one was temporary and the other is permanent is enough to distinguish them because the environmental impact of a short-term program may be much less significant than a program of indefinite duration."[126] The City thus could not rely on its prior CEQA document prepared for the interim program to escape CEQA review for the permanent program.

Similarly, in *Chamberlin v. City of Palo Alto*, the court held that a permanent traffic plan for a neighborhood was a separate CEQA project from a nearly identical six-month interim traffic plan for the same area.[127] Even though the only difference between the two plans was permanency, the court concluded that the City could not rely on the negative declaration prepared for the interim plan when adopting the permanent plan, and an EIR was required for the permanent plan.[128] The court noted that if the City were allowed to evade CEQA review by issuing a negative declaration for a short-term plan, and then approving the same plan on a broader permanent basis by relying on the prior negative declaration, then the approach suggested by the City would result in precisely the sort of "piecemeal" environmental litigation prohibited by the Supreme Court in *Bozung v. Local Agency Formation Committee*.[129]

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[122] CEQA Guidelines §§ 15152, 15162; s*ee* also Pub. Resources Code § 21166; *Concerned Citizens of Costa Mesa v. 32nd Dist*. (1986) 42 Cal. 3d 929; see *Sierra Club v. Sonoma* (1992) 6 Cal.App.4th 1307 at 12320-1321.
[123] *Apartment Ass'n of Greater Los Angeles v. City of Los Angeles ("Apartment Ass'n"),* (2001) 90 Cal.App.4th 1162.
[124] *Id.* at 1168.
[125] *Id.* at 1169.
[126] *Id.*
[127] *Chamberlin v. City of Palo Alto* (1986) 186 Cal.App.3d 181, 187.
[128] *Id.*
[129] *Id.*; *Bozung v. Local Agency Formation Committee* ("*Bozung v. LAFCO*") (1975) 13 Cal.3d 263.

In the case at hand, the expanded statewide approval of CPVC drinking water pipe examined in the DEIR is much broader in scope than the limited approval of CPVC examined in the 2000 MND. Data obtained from HCD indicates that only one to four percent (4%) of new or re-piped homes have been plumbed annually with CPVC as a result of the 2000 approval.[130] By contrast, the proposed expanded statewide approval would allow each and every new home and re-pipe job to be plumbed with CPVC. This is up to a 100-fold increase in the potential scope of CPVC usage – an increase of 10,000%.[131]

Moreover, the 2000 MND for the limited approval of CPVC pipe goes to great length to emphasize the limited nature of its approval. The MND expressly stated:

> because the local CPVC approval authority that would be granted by the proposed regulations requires findings of existing or expected metallic pipe failure due to existing soil and water conditions, the potential scope of CPVC use that will result from the proposed project will be limited. Information in the record of previous HCD examinations of CPVC pipe indicates that corrosive drinking water is not a widespread problem in California. The evidence before the Lead Agency indicates that the problems with metallic pie corrosion have been isolated and occurred significantly only in certain limited areas of the state where residential units are being served by underground water wells. Finally, no cities or counties have filed with HCD modifications or changes in California Plumbing Code provisions to approve CPVC pipe pursuant to Health and Safety Code section 17958.7. For these reasons, *the Lead Agency has concluded that the CPVC installations that may result from the proposed regulatory approval will be limited in scope*.[132]

The 2000 MND repeats this analysis prior to its evaluation of each potential impact, including air quality impacts, hazardous material impacts,

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[130] See, *supra*, Section II, fn. 4; see also Dr. Fox Comments at p. 1-2; Appendix 20.
[131] The DEIR assumes that only 35% of new homes and re-pipes would be plumbed with CPVC upon approval of the Project. As discussed more fully in section IX.B.2, *infra*, this assumption lacks foundation. Evidence provided by the building industry to HCD indicates that more than 65% of new homes and the vast majority of re-pipes will be plumbed with CPVC. See Appendices 78, 79 & 80. But even 35% of new homes would represent a massive expansion in the number of workers, consumers, waste disposal facilities and air basins subject to the potential impacts associated with CPVC use.
[132] Appendix 1 at pp. 3-4 (emphasis added).

water quality impacts and solid waste impacts.[133] After going to such lengths to emphasize that the 2000 action would not have significant impacts precisely because of its "limited scope," HCD cannot now argue that its 2000 action was a "broader" action than the expanded statewide approval currently being considered for approval.

The proposed Project will result in a massive expansion of CPVC use both geographically and in quantity. This change will result in a substantial increase in the scope and severity of impacts and in the number of persons and communities impacted.

Furthermore, the regulations examined in the 2000 MND allow local building officials the discretion to deny the use of CPVC even where a finding of premature failure of metallic pipe has been made.[134] The proposed expanded statewide approval of CPVC, however, would remove this discretionary language and would thus *require* local building officials to allow the use of CPVC when specified in any residential building plan.[135]

In addition, the Project proposes to require the use of low-VOC CPVC cements and primers. Because the content of Acetone, MEK, THF and other hazardous chemicals varies between low-VOC CPVC cements and primers and regular CPVC cements and Primers, the worker health and leaching impacts may differ from those considered in the 2000 MND.

The DEIR Project is fundamentally different from and far beyond the scope of the limited 2000 MND Project. Reliance upon the 2000 MND for analysis of the potential impacts of the DEIR Project is therefore improper and lacks foundation. HCD's attempt to bootstrap the larger and more expansive DEIR Project to the smaller and much more limited 2000 MND project subverts the intent of CEQA and fails to meet the legal prerequisites for tiering off of a prior EIR.

C. The Analysis Contained in the 2000 MND Is Inapplicable Due to New Information and Circumstances

Third, the DEIR's reliance upon the analysis in the 2000 MND is improper because the circumstances under which the 2000 MND was proposed have changed and new information has become available regarding the scope and significance of impacts and the effectiveness of mitigation measures. An EIR may not rely on a prior EIR's evaluation of impacts where

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[133] Appendix 1 at pp.3-23.
[134] CPC § 604.2.
[135] See DEIR at p. 18.

new circumstances or new information may impact the accuracy and validity of the prior analysis.[136]

In *Security Environmental Systems v. SCAQMD*, after an EIR for an incinerator was prepared, new scientific information was published showing that dioxin emissions from the incinerator would be far more hazardous than previously believed. The court held that a new EIR was required for re-permitting of the same incinerator to analyze the new toxicity data, and to evaluate whether any additional mitigation measures were appropriate in light of the new data.

In the case at hand, the acceptable workplace exposure limits for Acetone have been significantly lowered since the 2000 MND. Also, new formulations of CPVC cements and primers have been introduced to the market. Furthermore, new particulate matter (PM10 and PM2.5) air quality standards have been adopted since 2000 as a result of new scientific information.[137] All three of these changes impact the accuracy and validity of the conclusions made in the 2000 MND.

In addition, new evidence has been submitted demonstrating that mitigation measures to prevent drinking water contamination adopted in the 2000 MND and proposed for adoption in the DEIR are not sufficiently adequate, feasible or enforceable to eliminate the potential for significant impacts from leaching.[138] New evidence has also been submitted of actual, systematic non-compliance with the proposed ventilation and glove-use mitigation measures.[139] This evidence demonstrates that these measures fail to reduce adverse impacts "to a point where clearly no significant effect" will result.[140]

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[136] *Security Environmental Systems v. South Coast Air Quality Management District ("Security Environmental Systems v. SCAQMD")* (1991) 229 Cal. App. 3d 110, 124; *Mira Monte Homeowners v. County of Ventura, supra,* 165 Cal.App.3d 357 (EIR required because impacts on wetlands would be more severe than previously believed); See also *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180 (prior CEQA document did not analyze previously unidentified significant effects, and therefore new EIR required).

[137] See, e.g., U.S. EPA, Air Quality Criteria for Particulate Matter, Second External Review Draft, March 2001; see also *Whitman v. American Trucking Assoc.* (Feb. 27, 2001) 531 U.S. 457.

[138] See section XI.C, *infra*; Exhibit B; Appendix 25 (Capitolo Report); Appendix 27 (Calone Report).

[139] See Section XI.D, *infra*; Exhibit C; Appendix 25; Appendix 27.

[140] The courts have held that actual evidence of failure to enforce mitigation measures is considered new substantial evidence that adverse impacts may occur. (*Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872 at 876, 883 (evidence of past failure to enforce the mitigation measures for noise impacts imposed in a prior MND demonstrated that there may still be a significant impact even with the proposed mitigation measures).)

Finally, new reports have demonstrated that CPVC is considered among the dirtiest of all plastics when lifecycle impacts, including manufacturing and disposal impacts, are considered.[141] Recent reports have also determined that CPVC is considered a "contaminant" in the waste stream.[142] The 2000 MND did not analyze the lifecycle impacts of CPVC and thus may not be relied upon to evaluate these reports.

VIII. THE DEIR IS BASED UPON UNSUPPORTED AND INACCURATE STATEMENTS

A. Legal Standards

CEQA requires conclusions in an EIR to be supported by substantial evidence.[143] "The EIR must contain facts and analysis, not just the bare conclusions of a public agency."[144] Furthermore, an EIR must provide the reader with the analytic bridge between its ultimate findings and the facts in the record.[145] The environmental assessment "must reflect the analytic route the agency traveled from evidence to action."[146] In particular, any conclusion that a potential effect will not be significant must be supported by a rigorous scientific analysis and concrete substantial evidence.[147]

The courts have also held that agency judgment and opinion cannot substitute for facts and analysis.[148] "An agency's opinion *concerning matters within its expertise* is of obvious value, but the public and decision-makers, for whom the EIR is prepared, should also have before them the basis for that opinion so as to enable them to make an independent reasoned judgment."[149] Thus, the DEIR must disclose the specific facts and technical analysis that supports the lead agency's opinion regarding the significance of the Project's potential environmental effects.[150] This disclosure is even more critical where the lead agency is exercising its judgment regarding matters *outside* the lead agency's expertise.

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[141] See Appendices 21, 53 & 67-74.
[142] See, e.g., Appendix 21.
[143] Pub. Resources Code § 21081.5; CEQA Guidelines § 15091, subd. (b).
[144] *Santiago Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831.
[145] *Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506; see CEQA Guidelines, § 15091.
[146] *Kings County Farm Bureau v. City of Hanford, supra,* 221 Cal.App.3d at p. 733.
[147] *Id.*
[148] *Santiago Water District v. County of Orange, supra,* 118 Cal.App.3d at p. 831.
[149] *Id.*, emphasis added.
[150] *Id.*

Finally, CEQA requires that the specific facts and technical analysis supporting the lead agency's conclusions and opinions be disclosed *in an EIR*. The lead agency's reliance on facts and technical analyses that appear in documents or studies outside of an EIR cannot substitute for an analysis presented in the document circulated for public review. An EIR itself "must reflect the analytic route the agency traveled from evidence to action."[151]

Like an Environmental Impact Statement ("EIS") prepared under the federal National Environmental Policy Act ("NEPA"), an EIR must be "an essentially self-contained instrument, [which should] be capable of being understood by the reader without the need for undue cross-reference."[152] The presentation of the technical data and information in an EIR must be "sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public."[153] In addition, the *complete* details of the technical analysis and data supporting the findings of an EIR must be presented in an appendix to the main body.[154]

While CEQA permits an EIR to incorporate by reference all or portions of other publicly-available documents, CEQA Guidelines make clear that this procedure is appropriate only for documents providing general background, but not for materials that "contribute directly to the analysis of the problem at hand."[155]

B. Application of Legal Standards to the DEIR

As discussed in detail throughout these comments, the DEIR is largely based upon conclusory assumptions, opinions and factual assertions that lack any foundation or evidentiary basis. A partial list of unsupported statements is attached as Appendix 86. The Coalition, however, objects to each and every unsupported assumption, statement and conclusion contained in the DEIR.

The sheer number of unsupported and inaccurate statements in the DEIR renders the document essentially meaningless. Without disclosure of the underlying evidentiary support and the critical analytical details, the public is denied an opportunity to meaningfully consider and comment on the DEIR's conclusions. The DEIR must be withdrawn and revised to ensure that it is based upon rigorous scientific analysis and concrete substantial

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[151] *Kings County Farm Bureau v. City of Hanford, supra,* 221 Cal.App.3d at p. 733.
[152] *Baltimore Gas & Electric Co. v. Natural Resources Defense Council* (1983) 462 U.S. 87, 99-101, fns. 12, 13.
[153] CEQA Guidelines § 15147.
[154] *Id.*
[155] CEQA Guidelines § 15150, subd. (f).

evidence. The DEIR must then be recirculated to allow the public a meaningful opportunity for comment.[156]

IX. THE DEIR PROVIDES AN INADEQUATE AND MISLEADING PROJECT DESCRIPTION

A. Legal Standards

The definition of the project under review in an EIR is critically important since it informs the public and government decisionmakers of the nature of the proposed activity and determines the scope and content of the analysis that follows. The courts have declared that "[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR."[157]

CEQA Guidelines also require that a project definition include "the whole of the action, which has a potential for resulting in a physical change in the environment, directly or ultimately . . . ."[158]

The policy behind the requirement for a clear, accurate and complete project definition was cogently stated in *County of Inyo v. City of Los Angeles*:

> A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the 'no project' alternative) and weigh other alternatives in the balance.[159]

Another court noted that a failure to include all components of a project in the project description defeats CEQA's mandate for full public disclosure and consideration of potential impacts: "Because of this omission, some important ramifications of the proposed project remained hidden from

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[156] See CEQA Guidelines § 15088.5, subd. (a).
[157] *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App. 3d 185, 193; *see also City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438; *Rural Land Owners Association v. Lodi City Council* (1983) 143 Cal.App.3d 1013, 1024-1025; and *Santiago County Water District v. County of Orange, supra,* 118 Cal.App.3d at pp. 829-830.
[158] CEQA Guidelines § 15037, subd. (a); s*ee also City of Santee v. County of San Diego, supra,* 214 Cal.App.3d at pp. 1450-1455; and *Rural Landowners Association v. Lodi City Council, supra*, 143 Cal.App.3d at p. 1025.
[159] *County of Inyo v. City of Los Angeles, supra*, 71 Cal.App.3d at p. 193; see *also City of Santee v. County of San Diego, supra*, 214 Cal.App.3d at pp. 1450-1455.

view at the time the project was being discussed and approved. This frustrates one of the core goals of CEQA."[160]

B. Application of Legal Standards to the DEIR

1. The DEIR Deliberately Misrepresents the Proposed Project

The DEIR fails to include basic information necessary to assess the impacts of the Project and is purposely misleading as to the massive scope of the Project. Most egregiously, the DEIR repeatedly contends that the "[t]he Project is not the approval of CPVC plastic pipe for potable water distribution."[161] This statement is pure doublespeak.[162]

The Project is unequivocally about expanding the approval of CPVC pipe for potable water distribution in residential construction. To state otherwise deliberately misleads the public as to the true nature of the Project.

In order to obscure the fact that the Project will massively expand the approval of CPVC plastic pipe for potable water distribution, the DEIR claims the project is simply the removal of the "Findings Requirement."[163] HCD wants the public to believe that the removal of the Findings Requirement is a minor technical change to the 2000 MND prepared for HCD's action allowing CPVC only in areas with corrosive soil or groundwater.

The "Findings Requirement" referred to is the restriction in CPC section 604.1.2, subdivision (a), that limits installation of CPVC water pipe in residential structures to the few areas of the state where there is or will be premature failure of metallic pipe due to corrosive soil or water conditions. Removal of this "Finding Requirement" is anything but a minor technical change. Annually, only 1% to 4% of new residential structures have satisfied the Finding Requirement and installed CPVC drinking water pipe.[164] Accordingly, CPVC remains barred in the other 96% to 99% of the homes being built or re-piped in the state.

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[160] *Santiago County Water District v. County of Orange, supra,* 118 Cal.App.3d at p. 830.
[161] DEIR at pp. 1, 51.
[162] See George Orwell, Nineteen Eighty-Four (1949).
[163] DEIR at pp.1, 51.
[164] See fn. 4, *supra*; see also Appendix 20; Dr. Fox Comments at p. 1-2.

By removing the Finding Requirement, CPVC use could increase from the approximately 4% of housing to up to 100% of new and re-piped homes.[165] This is an increase of 2500% to 10,000%. This will also increase many of the environmental impacts of CPVC by 2500% to 10,000%, as discussed more fully in the attached expert comments.[166] Even if only 40% of new homes installed CPVC as a result of this Project, this would still result in an increase of 1000% to 4000%.

An increase in the scope of the Project by a 1000% to up to 10,000% is simply not a minor technical change. Such an increase will impact millions of people and hundreds of jurisdictions throughout California that currently are not subject to the limited conditions permitting the installation of CPVC potable water pipe.

By repeatedly defining the Project as the mere removal of a Findings Requirement, the DEIR is blatantly and purposefully misleading. It fails to meet the basic requirements for accuracy of Project description since the public is misled to believe the Project is merely a minor technical change to a previously approved Project, when in fact it is a massive new Project that may expand the approval of CPVC potable water pipe throughout the state by up to 10,000%.

2. The DEIR Grossly Underestimates the Scope of the Project

The DEIR's Project description is further inadequate due to its assumption that only 30% of the homes constructed or repiped in California will use CPVC if the Project is approved.[167] This assumption lacks foundation and significantly underestimates number of homes likely to be piped with CPVC in California under this Project.

The DEIR states that "According to industry sources, CPVC plastic plumbing pipe has an approximately 30 percent share of the nation's market for potable water plumbing."[168] It then, without any analysis, assumes that, were the Project to be approved, "CPVC would claim the same share of California's potable water plumbing pipe market."[169]

The DEIR supports this assumption with a citation to a Feb. 23, 2006 e-mail to HCD staff attorney Robin Gilb from Jeff Cash, the Business

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[165] *Id.*
[166] *Id.*
[167] DEIR at p. 12-13, 36.
[168] DEIR at p. 36.
[169] *Id.*

Director for CPVC manufacturer Noveon, Inc. Mr. Cash's e-mail states that the North American market (including Canada, the United States and Mexico) for potable water pipe is 230 million pounds: CPVC is about 70 million pounds or 30%; PEX is about 40 million pounds or 17%; and copper accounts for the remainder at around 53%.[170]

Contrary to the DEIR's assertion, he does not state that the CPVC market share in the "nation" is 30%. Instead, he combines Canada and Mexico into his estimate. Moreover, he states that there are "a lot of regional differences in the above ratios."[171] "For example, Florida is a heavy CPVC user while as you imagine California is not."[172]

Mr. Cash's e-mail underscores one of the fallacies in relying on this 30% estimate. The 30% estimate includes California, which currently does not approve PEX and severely limits the use of CPVC. Arkansas, New York City, Chicago and numerous other jurisdictions also restrict the use of CPVC.[173] Accordingly, the 30% estimate must be adjusted to factor out the number of pounds of potable water pipe sold in California, Arkansas, New York City and Chicago. California alone would result in an upward adjustment of 10%.[174]

Given the size of these markets, this would be a significant adjustment. Moreover, such an adjustment would still result in an artificially low estimate of CPVC's likely market share since it would not adjust for the numerous smaller jurisdictions such as Lake in the Hills, Illinois and Nacogdoches, Texas which also prohibit the use of CPVC pipe for potable water distribution in buildings.[175]

Moreover, the evidence in the record strongly suggests that Mr. Cash's e-mail is inaccurate. A public record request by counsel for the Coalition obtained a subsequent e-mail dated Feb. 24, 2006 to Robin Gilb from Bob Raymer, the technical director for the California Building Industry Association ("CBIA").[176] This e-mail states that the North American Market for CPVC is 90 million pounds or 39%, not 30% as stated in the DEIR. Mr. Raymer further states that the market for PEX is about 40 million pounds or 17% and states that copper makes up the remaining 44%.

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[170] Appendix 78.
[171] *Id*.
[172] *Id*.
[173] See Section IX.B.3, *infra*; Appendix 77.
[174] See Exhibit A ("Dr. Pless Comments") at pp. 10-11.
[175] Appendix 77.
[176] Appendix 79.

Ms. Gilb received this e-mail a day after the Cash e-mail, yet simply ignored this inconsistent evidence. The DEIR fails to explain the inconsistency between Mr. Raymer's estimate and Mr. Cash's estimate or how it determined 30% was the more accurate number. Accordingly, its reliance on Mr. Cash's 30% estimate over Mr. Raymer's 39% estimate is arbitrary and without foundation.

The estimates of both Mr. Cash and Mr. Raymer must also be adjusted to take into account that CPVC potable water pipe weighs significantly less than copper potable water pipe. Both the Cash and Raymer estimates determine market share by the number of pounds of piping sold. Accordingly, 70 to 90 million pounds of CPVC pipe may represent much more of an actual market share than 100 to 130 million pounds of copper pipe.

Both the Cash and Raymer emails suggest that they have converted their estimates are given in pounds "as measured by CPVC." However, they fail to provide any information as to how this adjustment was actually made. Without access to the analytical steps that were taken to adjust for the weight differences between copper, CPVC and PEX, the lead agency, and the public, are unable to ascertain if these estimates accurately reflect CPVC's market.

The DEIR also fails to adjust these numbers for the fact that PEX plastic pipe is not approved for use in California.[177] Because PEX users already demonstrate a predilection for using plastic potable water pipe, it is reasonable to assume that a significant portion of the 17% of the market that uses PEX would choose CPVC if PEX was not an option. The Project description should thus assume that the CPVC potable water market share in California would be in *at least* 47% to 56% of new homes. The actual market share will be much higher after making adjustments for markets that do not allow CPVC and for the difference in weight between copper and CPVC.

The DEIR's reliance on Mr. Cash's 30% market share estimate is arbitrary, lacks foundation and is contrary to the evidence in the record. As a result, the DEIR improperly conceals the actual scope of this project, preventing meaningful public review.

[177] CPC § 604.1.

3. The DEIR Incorrectly Describes the Current Authorization for CPVC Outside of California

The DEIR states that "CPVC pipe also is permitted for residential potable water distribution in the other 49 states."[178] This assertion that all other 49 states allow CPVC lacks foundation, is misleading and is contrary to the evidence in the record. Numerous jurisdictions throughout the United States also restrict the use of CPVC. CPVC is banned in New York City, Chicago and many other smaller jurisdictions including the towns of Lake in the Hills, Illinois and Nacogdoches, Texas.[179] The State of Arkansas also restricts the use of CPVC potable water pipe.[180]

The DEIR's inaccurate description of the current authorization of CPVC outside of California is significant because it presents a distorted context of the Project. This statement implies that there can be no legitimate basis for California's singular refusal to approve a material allowed everywhere else in the country. This also reflects a misunderstanding of HCD's legal obligations under CEQA.

The authorization or use of CPVC in other jurisdictions is irrelevant unless an analysis of the potential environmental impacts of such authorization and use, or subsequent studies and tests of the leaching, worker health and other impacts of installation and use, have been conducted. The DEIR must present and discuss this information in its present analysis if CPVC authorization and use elsewhere are to be considered properly in the present CEQA analysis.

In claiming approval for CPVC in all other 49 states, the DEIR simply parrots a line that has become a mantra of the CPVC lobbyists. What is revealing, however, is that this claim has been rebutted on more than one occasion with evidence presented to HCD in prior proceedings, including the unfinished 1998 CPVC EIR. The fact that the DEIR repeats this assertion without referring to evidence in its own record, indicates either that the DEIR authors are not familiar with the record, or that they simply incorporated the CPVC lobbyist assertions without any attempt at an independent review.

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[178] DEIR at p. 12.
[179] Appendix 77.
[180] Similar to California, the restrictions in Arkansas contain an exception for pipe that is exposed to aggressive soil conditions. Appendix 77.

4. The DEIR Fails to Adequately Describe the Low-VOC Solvents Required Under the Project

The DEIR's Project description is further deficient because it fails to include a sufficient description of the low-VOC primers and cements that it proposes to require. As part of its proposed expanded approval of CPVC potable water pipe, HCD proposes to require the use of low-VOC primers and cements. As discussed in detail in the attached expert comments and in Section XI, *infra*, the proportion of ingredients in low-VOC primers and cements may differ significantly from the regular CPVC primers and cements reviewed in the 1989 DHS study on worker health and safety impacts.

HCD admits in the DEIR that "reduction in VOC content also has generally resulted in an increase in acetone concentrations."[181] In addition, one of the authors of the 1989 DHS study observed in his 1998 report that low-VOC solvents may contain ten times the amount of MEK, resulting in significantly increased worker exposure impacts.[182]

The DEIR, however, fails to disclose the actual proportions of ingredients found in low-VOC primers and cements. Without the disclosure of this significant information, the public is unable to compare these products with the findings in the 1989 DHS study or otherwise meaningfully evaluate their potential impacts.

5. The DEIR Fails to Include the Complete Plumbing System Proposed for Authorization

The Project description is also inadequate because the DEIR fails to fully describe the complete plumbing system proposed for authorization. CPVC pipe requires special insulation materials, hanging systems and construction methods to address abrasion and noise, and to protect the pipe from elevated temperatures and extreme cold. CPVC pipe also requires special fire stopping systems. These other components of the CPVC plumbing system are essential to the installation and use of CPVC pipe and are an integral part of the Project under consideration. The DEIR's failure to address all components of the CPVC plumbing system presents a misleading picture of the full scope of potential impacts.

An examination of the complete plumbing system proposed for approval is particularly relevant to HCD's ability to define and mitigate potential impacts. Past failures with CPVC as well as with other plastic pipes have resulted in part from an incompatibility between materials

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[181] DEIR at p. 63.

[182] Appendix 28 at pp. 18-22, 28.

supplied by different manufacturers. The best-known example is the widespread failure of polybutylene ("PB") pipe due to problems with a particular brand of fitting used with the PB plumbing system. Industry documents have revealed that CPVC may fail when exposed to numerous common household substances.[183] By failing to disclose the complete plumbing system, the DEIR hinders analysis of the need for alternatives or mitigation measures to address these incompatibilities.

6. The DEIR Fails to Include Variations in Manufacturing Formulas for CPVC Pipe

"CPVC" is a generic term for plastic produced by chlorinating polyvinyl chloride ("PVC"), and there can be significant differences in the chemical composition of the material resulting from varying manufacturing methods. CPVC pipe and fittings contain potentially harmful chemicals that are introduced during the manufacturing and extrusion process. The differences in manufacturing and extrusion methods result in differing chemical compositions and create a potential for a wide variation in health and environmental effects.

New formulations or revised formulations of CPVC are often introduced into the market.[184] Furthermore, California has always seen low cost Pacific Rim imports enter the construction materials market. Cost pressures and patent restrictions increase the likelihood of low-cost manufacturers turning to "dirtier" methods of producing CPVC.

CPVC resin is extruded into pipe and plumbing system components by different companies than the companies that manufacture the CPVC resins. Because the extrusion process occurs at high temperatures and under high mechanical stress, chemical additives are necessary. The DEIR must define the full range of manufacturing options for thermal stabilizers and CPVC formulations that may be applied to manufacture the products subject to approval.

The same need for comprehensive definition applies to cements and other components of the piping system being proposed for approval. An adequate environmental assessment must address current variations in solvent cement and primer formulations, and must also evaluate the potential impacts from reasonably foreseeable future changes in these formulations.

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[183] See Section XI.G, *infra*.

[184] Exhibit B ("Reid Comments").

X. THE THRESHOLDS OF SIGNIFICANCE RELIED UPON IN THE DEIR ARE ARBITRARY, LACK FOUNDATION AND IGNORE CRITICAL CONTRARY EVIDENCE

A. Legal Standards

CEQA Guidelines define a "threshold of significance" as "an identifiable quantitative, qualitative or performance level of a particular environmental effect."[185] A lead agency may formulate standards of significance for use in an EIR as long as a reasonable basis exists for using those standards. This requires that the agency make a policy judgment about where the line should be drawn for distinguishing adverse impacts deemed substantial from those that are not deemed substantial.[186] This judgment must, however, be based on scientific information and other substantial evidence.[187]

"Thresholds of significance" create a presumption of significance or insignificance. However, they do not relieve a lead agency of its duty to evaluate substantial evidence that may rebut this presumption. Nor do they apply where the threshold is inapplicable to the substantial evidence presented. "If evidence is submitted tending to show that the environmental impact might be significant despite the significance standard used in the EIR, the agency must address that evidence."[188] "If the agency does not respond by changing the standard it should respond by explaining the factual and policy basis for the standard used and why the project meets the standard."[189]

B. Application of Legal Standards to the DEIR

As addressed in detail throughout this comment letter, the thresholds of significance formulated by HCD for use in the DEIR are arbitrary and fail to address substantial evidence showing that the environmental impact of the Project might be significant despite the significance standard. The thresholds of significance in the DEIR lack foundation, citation to supporting

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[185] CEQA Guidelines § 15064.7, subd. (a).
[186] CEQA Guidelines § 15064, subd. (b).; *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477.
[187] Kostka & Zischke, *Practice Under the California Environmental Quality Act*, § 13.2, p. 621.
[188] Kostka & Zischke, *Practice Under the California Environmental Quality Act*, § 13.2, p. 624; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App. 4th 1099, 1111.
[189] Kostka & Zischke, *Practice Under the California Environmental Quality Act*, § 13.2, p. 624; *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477; *National Parks & Conserv. Assn. v. County of Riverside* (1999) 71 Cal.App.4th 1341, 1355.

evidence, or description of the analytic process that led to the selection of these thresholds.

Moreover, as discussed in detail in Section V, *supra*, the authors of the DEIR lacked the necessary expertise to select thresholds of significance for these impacts. They also lacked the expertise to determine that other evidence of significant impacts should be disregarded.

Public records requests reveal absolutely no consultation with agency or outside experts regarding the determination of appropriate thresholds of significance, with one exception. The one exception was HCD's consultation with CARB that was subsequently ignored and rejected by the preparers of the DEIR, who do not share CARB's expertise in this area.

As discussed briefly in Section V, *supra*, HCD staff attorney Ms. Gilb requested that CARB staff recommend the appropriate threshold of significance for evaluating the Project's potential VOC air quality impacts.[190] CARB replied that HCD should use local air district's operational *and* construction thresholds of significance for VOC emissions. CARB stated that using these methods would provide "reasonable but conservative estimates of impacts."

The DEIR, however, rejects this recommendation. Instead, the DEIR concludes, apparently based solely on the opinion of HCD's attorneys, that the "use of local air district construction and operation thresholds of significance for VOC emissions are not appropriate standards to evaluate the air impacts for a proposed building code change."[191] What is more, the DEIR fails to disclose CARB's contrary recommendation either in the text of document or as part of the supporting documentation made available to the public.[192]

The DEIR's thresholds of significance for water quality, worker safety and solid waste impacts further violates CEQA because these thresholds arbitrarily ignore the substantial evidence submitted during prior proceedings that indicate that these impacts may be significant. CEQA does not permit a lead agency to ignore evidence of Project impacts by formulating extraneous thresholds of significance.

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[190] Appendix 55; DEIR at p. 48.
[191] DEIR at p. 48.
[192] Appendix 66.

XI. INADEQUATE ANALYSIS OF POTENTIAL IMPACTS

As discussed in detail below and in the technical comments, the DEIR's discussion of Project impacts fails to meet the minimum standards of CEQA. Some Project impacts are not discussed *at all*, while others are treated in cursory fashion. The only issue evaluated in any detail is air quality, but even that analysis is deeply flawed. Aside from the flawed air quality analysis, the DEIR's impact analysis is completely devoid of any quantification, empirical analysis or any factual examination of any kind.

The burden of environmental analysis is placed on the lead agency and not the public. A lead agency cannot "hide behind its own failure to gather relevant data." The sparseness of record presented by the DEIR thus enlarges the scope of issues that must be examined in a recirculated EIR that responds to the issues identified in these comments.[193]

A. Legal Standards

An EIR prepared by the lead agency must include a detailed statement setting forth all significant effects of the proposed project.[194] Its purpose is "to provide the public and governmental decision-makers . . . . with *detailed information* of the project's likely effect on the environment; to describe ways of minimizing significant effects; to point out alternatives to the project."[195]

CEQA provides that the "environmental impact report *shall* include a detailed statement setting forth *all* of the following: (1) *All* significant effects on the environment of the proposed project . . . ."[196] Additionally, the agency is required to make findings "with respect to each significant effect" that are based on substantial evidence in the record.[197]

Failure to disclose a significant impact in an EIR would deprive "the public, who relied on the EIR's representations, of meaningful participation . . . ."[198] An EIR must disclose to the public and to decision-makers whether an impact is significant, so that the public may have an opportunity to review and comment on the severity of the impact and the adequacy of mitigation measures. "In reviewing an EIR a paramount consideration is the right of the public to be informed in such a way that it can intelligently weigh the

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[193] *Sundstrom v. Mendocino County, supra,* 202 Cal.App.3d 296, 361.
[194] Pub. Resources Code § 21100, subd. (b)(1).
[195] *County of Inyo v. City of Los Angeles*, *supra,* 71 Cal.App.3d at p. 192; emphasis added.
[196] Pub. Resources Code § 21100, subd. (b)(1); emphasis added.
[197] Pub. Resources Code §§ 21081, subd. (a), 21081.5.
[198] *Mira Monte Homeowners v. San Buenaventura, supra,* 165 Cal.App.3d at p. 365.

environmental consequences of any contemplated action and have an appropriate voice in the formulation of any decision."[199]

CEQA "contemplates serious and not superficial or pro forma consideration of the potential environmental consequences of a project."[200] "Conclusory comments in support of environmental conclusions are generally inappropriate."[201] "To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions."[202]

Preparing an EIR requires research and information gathering. Lead agencies must thoroughly investigate potential project impacts. The burden of this environmental investigation is placed on the government rather than the public.[203] "The agency should not be allowed to hide behind its own failure to gather relevant data."[204] The agency "must use its best efforts to find out and disclose all that it reasonably can."[205]

The process of analyzing a project's impacts must be an interactive one between the public and the lead agencies. The process "must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a consistently described project, with flexibility to respond to unforeseen insights that emerge from the process."[206]

B. The DEIR's Air Quality Analysis is Inadequate

The DEIR finds that the Project will increase the statewide use of CPVC primer and cement and therefore increase emissions of VOCs. VOCs are ozone precursor compounds. Ozone pollution is a principal component of smog and is a major source of respiratory illness in California. The DEIR concludes that the increased VOC emissions from the Project would result in significant and unavoidable adverse impacts on air quality.[207]

Despite its admission that the Project will result in significant and unavoidable air quality impacts, the DEIR's air quality analysis contains a number of substantial deficiencies that mislead the public as to the severity of the Project's impacts. First, the DEIR's air quality analysis substantially

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[199] *Karlson v. City of Camarillo* (1980) 100 Cal.App.3d 789, 804.
[200] *Leonoff v. Monterey County Bd. of Supervisors* (1990) 222 Cal.App.3d 1337, 1347-48.
[201] *Laurel Heights I, supra*, 47 Cal.3d at p. 404.
[202] *Id.*
[203] *Sundstrom v. Mendocino County, supra,* 202 Cal.App.3d 296, 311.
[204] *Id.*; *see also* p. 361 (sparseness of record suggests existence of significant issues).
[205] CEQA Guidelines § 15144.
[206] *County of Inyo v. City of Los Angeles, supra,* 160 Cal.App.3d at p. 1185.
[207] DEIR at pp. 47-48.

understates the scope of the Project's air quality impacts. Second, the DEIR improperly rejects applicable thresholds of significance. Third, the DEIR misleads the public by inaccurately comparing Project VOC emissions to natural background VOC emissions. The comparison of Project VOC emissions to background emissions is irrelevant.

In addition, the DEIR's air quality analysis is deficient because it fails to adequately identify and analyze the health impacts resulting from the adverse air quality impacts. The DEIR also fails to evaluate feasible mitigation measures such as requiring the use of one-step cements.

1. The DEIR Substantially Understates the Scope of the Project's Air Quality Impacts

While admitting that the Project would have significant air quality impacts, the DEIR trivializes the extent of these impacts by grossly understating their scope. Throughout the DEIR, HCD characterizes the air quality impacts as minimal. For example, the DEIR states that Project emissions may contribute substantially to an existing or projected violation of ambient air quality standards for ozone "where the addition of *even a small amount of ozone precursors* can be considered a substantial contribution."[208]

HCD further minimizes the severity of the air quality impacts by characterizing the potential variability in emissions with a flawed statistical analysis rather than using conservative values for the factors involved in the calculations, as is common practice. As discussed in detail in the comments of Dr. Pless, the DEIR's emissions estimates contain numerous erroneous and unsupported assumptions, computational errors, and flawed use of statistical tools.[209] As a result, the DEIR substantially underestimates the potential ozone precursors emissions from the proposed Project and thus fails to disclose the potential magnitude of the Project's adverse effects on air quality.

(a) The DEIR Underestimates the Potential Future Market Share of CPVC Pipe in California

The DEIR's estimate of potential VOC emissions resulting from the proposed Project is based on the assumption that CPVC pipe would achieve a 30 percent market share in California.[210] As discussed in detail in Section IX.B.2, *supra*, this value for future market share of CPVC is neither

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[208] DEIR at pp. 47-48, emphasis provided.
[209] Dr. Pless Comments.
[210] DEIR at pp. 12-13 and 36.

reasonable nor adequately supported by the facts. Using the data from industry estimates, actual market share of CPVC is more likely to be at least 47% to 56%, even before adjusting for the markets that currently bar CPVC.[211] As a result, the DEIR significantly underestimates the number of homes that can reasonably be expected to be piped with CPVC in California in the future.[212]

Because the DEIR's calculation of air quality impacts is based on its estimate of the number of homes likely to piped by CPVC annually, this error misleads the public as to the actual scope of the Project's contribution to California's air quality problems.

(b) The DEIR's Calculations Underestimate the Number of CPVC Re-Pipes

The DEIR states that its emission calculations assume that 100,000 units per year would be re-piped with CPVC pipe in the year the code change would be adopted.[213] This assumption is based on a ballpark estimate provided by the CBIA.[214] Review of the DEIR's calculations, however, reveals that only 30 percent of these estimated 100,000 CPVC re-pipes were taken into account to estimate potential VOC emissions from the Project for both the 2007 estimate and the 39-year average projection of future emissions. This error effectively reduces the total number of units assumed to be re-piped with CPVC from 100,000 units to 30,000 units. As a result, the DEIR underestimates potential VOC emissions from units repiped with CPVC.

The DEIR fails to explain the inconsistency between its statement that 100,000 units were assumed for its emissions calculations and the fact that it reduces this number by multiplying it with the projected future market share of CPVC of 30 percent. Based on industry information it must be assumed that the re-pipe market in California would largely use CPVC rather than copper. In an email to HCD, Bob Raymer, CBIA technical director, noted the following:

> One thing is very clear; the existing multifamily housing stock (apartments primarily) in California will be needing extensive plumbing system rehab in the coming years. The units built in the 1950's through 1970's will be needing substantial and expected rehab. Many of these rehab projects will be indefinitely postponed if allowable materials are limited to metal pipe.

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[211] See Section IX.B.2, *supra.*
[212] Dr. Pless Comments at pp. 10-11.
[213] DEIR at p. 3.
[214] Exhibit 80.

> Regarding metal pipes, the labor costs associated with the time-extensive rehab of existing multi-family dwellings are simply too high to make many projects economically viable.[215]

This statement implies that the re-pipe market, at least for MF housing units, would almost exclusively be plumbed with CPVC if the code change would be adopted.[216]

The DEIR, thus, considerably underestimates VOC emissions by applying a 30 percent market share to the 100,000 units estimated to be re-piped in California with CPVC in 2007. Based on this error, the DEIR calculates a statewide total of 347 lb/working-day of VOC emissions, whereas inclusion of all 100,000 units to be re-piped results in VOC emissions of 635 lb/working-day.[217] Thus, the DEIR has underestimated total average VOC emissions from the proposed Project by 288 lb/work-day17 or 36.0 tons/year.[218]

Results for the 39-year average projections are similarly underestimated because the number of re-pipes was assumed to be the same. Here the DEIR calculates a total of 343 lb/working-day instead of 632 lb/working-day of VOC emissions under the corrected calculation.[219]

It should be noted that these emission estimates only account for the incorrect application of the 30% market share to the number of re-pipes. Actual emissions from the Project would be considerably higher due to the numerous other faulty assumptions and miscalculations discussed in these comments.

(c) Use of CPVC Pipe to Repair Slab Leaks Is Not Considered

The DEIR's air quality analysis is further deficient because it fails entirely to address the potential use of CPVC pipe to repair slab leaks. In an email to the preparers of the DEIR, the California Building Industry Association identified slab leaks in existing, aging housing units as another large market for CPVC pipe.[220] The email estimated that repair of slab leaks "could…be a very large quantity with probable 200,000 leaks per year in southern and Northern Cal."[221]

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[215] *Id.*
[216] Dr. Pless Comments at p. 12.
[217] *Id.* at pp. 11-13, Table A-1.
[218] *Id.* at p. 13, Table A-1.
[219] *Id.* at p. 13, Table A-2.
[220] Appendix 80.
[221] *Id.*

A large number of homes in California are built with a concrete slab foundation with hot and cold water pipes located underneath the slab. Because of the lack of access to pipes located underneath slab, it is difficult to simply spot patch small leaks. As a result, slab leaks are more often fixed by partially re-piping the system to bypass the slab.[222]

The DEIR fails to include the VOC emissions associated with the repair of 200,000 slab leaks a year in its emission estimates. As a result, it significantly understates the scope of the Project's air quality impacts.

(d) VOC Emissions from Cleaners Are Not Included

The DEIR's emission calculations also fail to take into account VOC emissions from the cleaning of CPVC pipe prior to application of the primer and cement. The mating surface of CPVC pipe must be free of dirt, dust, grease, paint, water and other substances. The mating surface, however, may contain waxy chemicals that are slippery and provide a barrier to cementing. These chemicals originate from extrusion aids and molding release agents used to manufacture the pipe. If not removed, they "provide a serious jeopardy to the making of a successful joint."[223]

Cleaning of the mating surface may be done using a volatile solvent such as MEK if deposits cannot be removed with a dry paper or cotton towel or rag. The solvents used to remove waxy, hydrocarbon-based contaminants are called cleaners. A cleaner is frequently used in addition to primer. An E-Z Weld (vendor of CPVC joining chemicals and source for the DEIR's values for cement use) Technical Note explains that: "[p]ipe cleaner is a non-aggressive mix of solvents used to remove contamination from joints and pipes prior to cementing. It will remove inks, dirt, oils and grease that could affect joint quality – and will not carry them into the plastic – as would primer."[224] The DEIR failed to include VOC emissions from cleaners in its air quality analysis.

(e) Indirect VOC Emissions from Manufacturing Are Not Included

The Air quality analysis is further deficient because it fails to examine indirect VOC emissions from manufacture of CPVC pipe, fittings, primers

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[222] Dr. Pless Comments at p. 14.
[223] Dr. Pless Comments at p. 14.
[224] *Id.*

and cements. CEQA requires analysis of a project's "indirect" impacts such as manufacturing that will be caused by the project.[225]

For example, in the case *Building Code Action v. Energy Resources Conservation and Development Commission*, the court addressed a CEQA challenge to an agency decision requiring the use of double-paned glass.[226] The court agreed that the proposed regulation could result in the increased production of glass at various glass factories throughout the state. The court also agreed that there was a fair argument that increased glass production caused by the regulation may have an adverse impact related to increased pollution from glass factories. The court held that CEQA review was required to analyze this impact.

CEQA requires that both primary or direct and secondary or indirect consequences of a project be evaluated.[227] The Project will increase the demand for CPVC pipe, fittings, and joining chemicals. It is reasonable to assume that a portion of this increase in demand will be met by existing California manufacturers.[228]

Similarly, the expanded statewide approval of CPVC drinking water pipe will greatly increase demand for CPVC pipe, cement, primers and cleaners.[229] This is likely to increase manufacturing of these products at factories in the state, thereby causing increased pollution from those factories.[230] This is a potentially significant impact that must be reviewed in an EIR.

Evaluation of manufacturing impacts is further required because HCD previously identified manufacturing impacts as potentially significant in the 1982 Initial Study for plastic pipe.[231] That document stated:

> Should the expanded use of plastic plumbing pipe be approved in California, a significant demand may be produced for additional pipe. This demand may lead to increased production or a general increase in activity at major chemical plants. Increased production may produce an

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[225] *Kings Co. Farm Bureau v. Hanford* (1990) 221 Cal. App.3d 692 at 717; CEQA Guidelines, 14 CEQA Guidelines § 15064, subd. (d) & Appendix G.
[226] *Building Code Action v. Energy Resources Conservation and Development Comm.* (1980) 102 Cal. App. 3d 577.
[227] CEQA Guidelines § 15064, subd. (d); .
[228] Dr. Pless Comments at p. 15.
[229] *Id.*
[230] *Id.*
[231] Appendix 5.

increase in air emissions with a potential decrease in ambient air quality.[232]

The DEIR fails to analyze this impact at all despite its admission that the Project will increase the demand for CPVC pipe, fittings, and joining chemicals.

The NSF's product database and other sources indicate that CPVC pipe and fittings, cement, and primers are manufactured in California at eight facilities.[233] VOC emissions from manufacturing originate from storing and blending solvents in tanks, mixers, and dispensers.[234] Some of the solvents used in these processes may also be manufactured in California, further increasing indirect emissions. This would increase VOC emissions from these existing manufacturing facilities, increasing the Project's adverse impacts on air quality.[235]

Given the magnitude of the increase in CPVC use proposed by the Project, the increase from existing manufacturing facilities in California could be individually and cumulatively significant.[236] The DEIR must be revised to include indirect emissions from manufacturing in its air quality analysis. It must also be revised to evaluate all feasible mitigation measures to reduce these emissions.

(f) The DEIR's Statistical Analysis Is Flawed

The DEIR presents seven pages of text and seventeen tables to support its calculations of potential VOC emissions from the proposed Project.[237] Unfortunately, a careful review of this air quality analysis by Dr. Pless reveals that it is riddled with computational errors, erroneous assumptions, and flawed use of statistical tools.[238]

The DEIR's calculation is flawed in part because it mischaracterizes the degree of confidence attributable to the result of its calculation.[239] The DEIR ignores the uncertainty (standard deviation) inherent in most of the factors used to calculate the annual VOC emissions from CPVC pipe use. In fact, the application considers only the uncertainty in the number of new units to be constructed in the future. It ignores the uncertainty inherent in

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[232] *Id.* section III.2.a.
[233] Appendix 52.
[234] *Id.*
[235] *Id.*
[236] *Id.*
[237] DEIR at pp. 35-42 and Appx. A, Tables 11 though 28.
[238] Dr. Pless Comments at p. 15.
[239] Dr. Pless Comments at pp. 15-20.

other factors including: (1) the uncertainty in the primer and cement use rates; (2) the uncertainty of the future market share of CPVC of the potable water pipe market; (3) the uncertainty of the number of units to be constructed by county each year; and (4) the uncertainty of the number of re-piped units per year.[240] As a result, the standard deviation associated with the DEIR's annual average VOC emissions estimate is too small because it only considers the uncertainty in the number of housing units to be built and ignores all other uncertainties.[241]

(g) The DEIR Contains Numerous Computational Errors

The review of the DEIR spreadsheets by Dr. Pless also revealed a number of computational errors.[242] For example, the spreadsheet used to calculate the average use of primer and cement for single family and multi-family housing units contains a number of incorrect input values as well as a number of incorrect cell references in the formulas calculating the averages and standard deviations.[243] The corrected values for these calculations are provided by Dr. Pless in her comments.[244]

(h) The DEIR's Calculation Errors Significantly Underestimate the Project's Potential Air Quality Impact

The errors identified by Dr. Pless result in a significant understatement of the Project's potential air quality impacts. As an example, Dr. Pless recalculated the annual average VOC emissions and the upper limit of the 95% confidence interval[245] for Riverside County to correct the identified calculation errors.

The DEIR's flawed calculations estimated annual average VOC emissions of 58.7 lb/working-day for Riverside County. In contrast, the corrected Dr. Pless calculations estimate an annual average VOC emission rate of 131.1 lb/working-day and an annual average VOC emission rate of 248.6 lb/day at the upper 95% confidence level.[246] Thus, the DEIR underestimates potential future emissions in Riverside County by almost 50

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[240] *Id.*
[241] *Id.*
[242] Dr. Pless Comments at p. 16.
[243] *Id.* at p. 18.
[244] Dr. Pless Comments at Table A-4.
[245] The 95% confidence interval is the estimated amount that has a 95% probability of not being exceeded, considering the uncertainty of all of the factors used in its derivation.
[246] Dr. Pless Comments at p. 20 and Table A-6.

lb/working-day and by 163 lb/working-day at the upper 95 percent confidence level.

Even the annual average emissions of 248.6 lb/working-day at the upper 95% confidence level understate potential peak daily emissions because they ignore daily variations throughout the year. This estimate characterizes the annual average rather than average daily variability.[247] The construction sector, however, has considerable seasonal variations in California. Moreover, the peak construction season coincides with the peak ozone season.[248] Thus annual average VOC emissions fail to disclose the extent of daily impacts that may occur when the peak ozone season coincides with the peak construction season. Further, this estimate does not include a number of emission sources including VOC emissions from CPVC pipe use due to slab leaks and indirect emissions from manufacturing.[249]

By substantially understating the air quality impacts, the DEIR fails to meet the fundamental disclosure requirements of CEQA. Where an EIR substantially understates the severity of an environmental impact, CEQA requires the EIR to be revised and recirculated in order to apprise the public of the actual scope of a project's impact.[250]

2. The DEIR Improperly Rejects Applicable Thresholds of Significance

The DEIR misleads the public as to the severity of the Project's air quality impacts by wrongly concluding that local air districts' operational and construction significance thresholds for VOC are not applicable to the Project. As discussed in detail in Section X, *supra*, the DEIR's statements and conclusions regarding the applicability of local air districts' significance thresholds lack foundation and are contrary to the recommendations of CARB.[251]

CARB is the state agency with the authority to coordinate the efforts in the state to attain and maintain ambient air quality standards through the California Clean Air Act. In response to a direct request by HCD, CARB advised HCD to evaluate emissions against both the operational and construction thresholds of significance to give "reasonable but conservative estimates of impacts."[252] Despite this recommendation, HCD, having no

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[247] Dr. Pless Comments at p. 20.
[248] *Id.*
[249] *Id.*
[250] CEQA Guidelines § 15088.5, subd. (a)(2).
[251] See also Dr. Pless comments at pp. 5-7.
[252] Appendix 55.

technical expertise in air quality analysis, chose to ignore the CARB's expert opinion and advice and declined to adopt either of these quantitative thresholds of significance.[253] To compound its error, HCD failed to even disclose CARB's recommendation that the DEIR apply these thresholds.[254]

Moreover, the DEIR fails to identify any other quantitative thresholds. Instead, it relies on a merely qualitative discussion of potential adverse impacts on air quality from the proposed code change.

3. The DEIR Improperly Compares Project VOC Emissions to Natural Background VOC Emissions

The DEIR attempts to trivialize the Project's potential impacts on air quality caused by emissions of ozone precursor compounds by comparing its potential VOC emissions to county and statewide VOC emissions from natural background sources.[255] Natural background sources of VOC emissions include biogenic or geogenic sources or wildfires.[256]

The DEIR declares that "VOC emissions projected to occur as a result of the change in the plumbing code are well below background ROG levels emitted by Natural Sources."[257] This statement implies that Project-related emissions would be negligible in comparison and, thus, irrelevant. This comparison is not only entirely immaterial in the context of a CEQA analysis; it is also deceiving.

On a state or county-wide mass emissions basis, natural background emissions of VOC, mostly biogenic emissions from vegetation, are generally orders of magnitude higher than potential VOC emissions attributable to the Project. However, the actual contribution of biogenic and anthropogenic VOC emissions to local or regional ozone formation is dissimilar and can not be inferred simply from absolute mass emissions. In the South Coast Air Basin, the Central Valley, and other parts of California, anthropogenic VOC sources are by far the largest contributor to ozone formation.[258] A number of factors contribute to this phenomenon including spatial and temporal distribution patterns of biogenic and anthropogenic VOC emissions.[259]

Moreover, the DEIR's comparison also fails to take into account that the Project's VOC emissions would occur in addition to the natural

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[253] DEIR at p. 42.
[254] See Appendix 66.
[255] DEIR at pp. 47-48.
[256] Dr. Pless Comments at p. 7.
[257] DEIR at p. 47.
[258] Dr. Pless Comments at pp. 7-8.
[259] *Id.*

background VOC emissions and other existing emissions.[260] Accordingly, the DEIR should have analyzed these natural background VOC emissions in the context of the Project's cumulative impacts.[261] The DEIR's attempt to downplay potential emissions from the proposed code change is misleading and fails to disclose the potential magnitude of adverse impacts on air quality.

4. The DEIR Fails to Adequately Disclose and Analyze the Correlation between the Project's Air Quality Impacts and Specific Respiratory Conditions and Illnesses

The DEIR's air quality analysis is further deficient because it fails to adequately identify and analyze the health impacts resulting from the adverse air quality impacts. CEQA requires that an EIR discuss health and safety problems caused by the physical changes that the proposed project will precipitate.[262] An EIR that fails to "correlate the identified adverse air quality impacts to resultant adverse health effects" is legally inadequate.[263]

The DEIR concludes that the Project would cause significant unavoidable adverse impacts on regional air quality due to emissions of VOCs, which are ozone precursor compounds.[264] The DEIR, however, offers only cursory acknowledgement that poor air quality due to increased formation of tropospheric ozone can lead to adverse impacts on human health. The DEIR offers only the following brief statement: "Ozone is a respiratory irritant that increases susceptibility to respiratory infections."[265] Such a brief reference to respiratory illnesses is not sufficient.[266]

There is no acknowledgement or analysis of the well-known connection between reduction in air quality and resultant increases in specific respiratory conditions and illnesses. After reading the DEIR, the public would have no idea of the health consequences that result when more VOCs are added to a non-attainment basin causing ozone levels to further increase.

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[260] *Id.*
[261] *Id.*
[262] CEQA Guidelines § 15126.2, subd. (a); *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1216.
[263] *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1216.
[264] DEIR at pp. 47-48.
[265] DEIR at p. 28.
[266] *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1216 ("brief references to respiratory illnesses" are insufficient to disclose the "health consequences that result when more pollutants are added to a nonattainment basin. . . .[T]he health impacts resulting from the adverse air quality impacts must be identified and analyzed in [a revised EIR]").

The DEIR must be revised to contain an adequate discussion of health impacts resulting from the contribution of Project VOC emissions to regional ozone formation.

5. The DEIR Fails to Evaluate All Feasible Mitigation Measures

CEQA requires a lead agency to adopt all feasible mitigation measures or feasible project alternatives that can substantially lessen or avoid any significant effects on the environment associated with a project to be approved.[267] The DEIR must evaluate if alternative joining compounds or methods exist that would further mitigate the Project's impacts.[268] In addition, the DEIR should consider requiring CPVC manufacturers and residential builders to fund research for primers and sealers with a lower VOC content.

C. The DEIR Fails to Disclose or Evaluate Substantial Evidence That CPVC May Leach Toxic Chemicals into Drinking Water

The statewide approval of CPVC may cause significant drinking water impacts due to the leaching of toxic chemicals directly from the CPVC pipe, cements and solvents. The DEIR, however, fails to fully disclose or adequately evaluate this leaching or its associated health risks.

As discussed fully in the attached comments of Thomas Reid, past studies demonstrate organic chemicals such as THF, MEK, ACE, CHX, chloroform and organotins have been found to leach into drinking water from plastic pipe and the primers, solvents and cements used to join the pipe.[269] What is currently known about these substances raises serious questions about the safety of chronic human exposure to them singly or in concert.[270]

THF, for example, is potentially carcinogenic.[271] THF may also cause depression of central nervous system functions.[272]

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[267] Pub Resources Code §§ 21002-21002.1; CEQA Guidelines § 15002, subds. (a)(2)-(3); see also, *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors, supra,* 52 Cal.3d at 564; *Laurel Heights I, supra,* 47 Cal.3d at 400.
[268] Dr. Pless Comments at p. 20.
[269] Reid Comments.
[270] *Id.*
[271] Appendix 24 at pp. 7, 8.
[272] Appendix 28 at p. 36.

MEK causes irritation and central nervous system depression even in low doses.[273] In higher doses, MEK may be embryotoxic, fetotoxic and potentially teratogenic.[274] Chronic irritation is associated with skin cancer. Subchronic toxicity studies of MEK show that it causes liver damage.

MEK also potentiates the toxic effects of other common contaminants, including such common CPVC leachates as THF and Acetone.[275] Peripheral neuropathy may be caused by the combined exposure of MEK and THF.[276] Furthermore, MEK and acetone may cause polyneuropathy when found together.[277]

Organotins such as diorganotins and triorganotins are of particular concern. Both are irritants to the skin and eyes and are powerful metabolic inhibitors.[278] Diorganotins are hepatoxic and can cause damaging effects on the liver and bile duct, immunotoxicity, reproductive toxicity and developmental toxicity.[279] Triorganotins, such as tributyltin, are highly toxic to the central nervous system.[280]

The DEIR, however, fails to evaluate leaching of organotins whatsoever. Moreover, it assumes without foundation that the potential impacts of all leachates will be mitigated below a level of significance based upon an unevaluated one-week flushing regimen and the requirement to use low-VOC CPVC primer and cement. As discussed in more detail below, these assumptions are arbitrary, without foundation and contrary to the best available evidence.

1. The DEIR Fails to Disclose or Evaluate the Issue of Organotin Leaching From CPVC Pipe or Fittings

The DEIR's failure to evaluate the impact of organotin leaching from CPVC renders the document legally inadequate. This is an issue that was raised in detail by several commentators during the 2005 Addendum proceedings. The DEIR, however, fails to mention the word "organotin" even once, much less evaluate the evidence that it leaches from CPVC pipe and fittings.

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[273] Appendix 24 at pp. 23.
[274] *Id.* at p. 9.
[275] *Id.* at pp. 9-10, 13-14.
[276] *Id.*
[277] *Id.*
[278] *Id.* at pp.15-17.
[279] *Id.*
[280] *Id.*

(a) US EPA Has Determined That Leaching of Organotins From CPVC May Have Toxicological Significance

The United States Environmental Protection Agency ("EPA") has corroborated that leaching of organotins from CPVC pipe may be a public health concern. In 1998, EPA published a Federal Register notice stating that "organotins, including mono- and di-organotins which are used as heat stabilizers in PVC and chlorinated polyvinyl-chloride (CPVC) pipes, are of sufficient concern to warrant further investigation."[281] EPA cited in support of this conclusion numerous reports demonstrating that new CPVC systems have the potential to contaminate drinking water with organotin compounds for a significant period of time after installation.[282]

Of particular concern to EPA were reports of tributyltin contamination of drinking water from PVC pipes since tributyltin is of far more toxicological significance than mono- and di- organotins.[283] Moreover, NSF does not test CPVC for tributyltins.[284] EPA concluded that the toxicology and leaching of organotins required further in-depth evaluation.[285]

This conclusion by EPA is substantial evidence that leaching of organotins from CPVC may significantly affect drinking water. Yet, the DEIR fails to disclose or to evaluate this potential impact.

(b) New Information About Public Health Standards for Organotins Has Become Available Since the Issuance of the 2000 MND

Since the issuance of the 2000 MND, a new study has become available concluding that the drinking level concentration for organotins safe for human consumption is much lower than stated in the 1998 EIR.[286] The 1998 EIR relied upon a recommended drinking water concentration limit of 20 ug/L of dibutyltins and tributyltin compounds a day.[287] A study by the German Federal Institute for Health Protection of Consumers and Veterinary Medicine, however, recommended that this value be reduced by more than

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[281] 63 Fed. Reg. 10282 (Mar. 2, 1998).
[282] *Id.*
[283] *Id.*
[284] Reid Comments.
[285] 63 Fed. Reg. 10282 (Mar. 2, 1998).
[286] Reid Comments.
[287] *Id.*

half to 8.75 ug/L per day for an adult.[288] The drinking water concentration that would be protective of an infant is even lower, about 4.9 ug/L a day.[289]

In September 2003, the Agency for Toxic Substances and Disease Registry ("ASTDR"), an agency of the U.S. Department of Health and Human Services, recommended new Minimal Risk Levels ("MRLs") for organotin compounds.[290] The ASTDR recommendations for tributyltin corresponded to a drinking water concentration of 10.5 mg/L for an adult and 5.9 ug/L for an infant.[291]

Both of these new studies were provided to HCD during the 2005 Addendum proceedings. Nonetheless, the DEIR fails to evaluate the Project's leaching impacts in light of these new studies.

(c) Levels of Organotins in Drinking Water Are Cumulatively Significant

The DEIR is also inadequate because it fails to analyze the potential cumulative impacts of organotins in drinking water. The exposure levels examined by HCD assume that one hundred percent of the exposure is from drinking water. However, there are many other sources of organotin compounds, including packaged foods (leached from plastic containers), seafood (highly bioaccumulated), bottled drinks (leached from plastic containers), and swimming in contaminated waters (many receiving waters in California have elevated levels).[292]

Even if HCD could rely on NSF/ANSI 61 to establish a threshold applicable to a single product, the organotin levels would be significant. NSF/ANSI 61 establishes requirements for the testing and evaluation of contaminants that are extracted (leached) from water that has been exposed to products that convey potable water. It sets two significance thresholds for drinking water. The total allowable concentration ("TAC") is the maximum concentration allowed in a public drinking water supply from all sources of contamination.[293] A single product allowable concentration ("SPAC") is the maximum concentration that a single product is allowed to contribute.[294] The SPAC is intended to account for potential contribution by multiple products or materials in the drinking water system.

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[288] *Id.*
[289] *Id.*
[290] *Id.*
[291] *Id.*
[292] *Id.*
[293] *Id.*
[294] *Id.*

The single product allowable concentration, based on NSF/ANSI 61, is designed to account for potential contribution by other sources.[295] For dibutyltin compounds, the NSF calculated the SPAC by multiplying the TAC by 20%.[296] Using the same approach, the SPAC for dibutyltin, based on the German TDI value would be 1.75 ug/L for an adult and 0.59 ug/L for an infant.[297] The leaching data reported by the U.S. EPA (0.8 – 2.6 ug/L) and by the 1987 Cooper study (33 ug/L) indicate that dibutyltin levels in drinking water in CPVC-piped systems can exceed these levels, for both adults and infants.[298]

The DEIR must be revised to disclose and evaluate these impacts. Feasible mitigation measures to reduce or eliminate organotin leaching impacts must also be investigated.

2. The DEIR Assumes without Foundation that Low-VOC Adhesives Will Reduce the Amount of Chemicals Leached From CPVC Pipe

The DEIR assumes without foundation or evaluation that the "[c]hemicals released into the water after CPVC installation will be reduced by the inclusion of the low-VOC Adhesive requirement."[299] The DEIR similarly states that the requirement to use low-VOC adhesives "will reduce the amount of cyclohexanone, methyl ethyl ketone, and tetrahydrofuran that will be discharged into the wastewater."[300] These statements lack any foundation, citation to evidence or description of the analytic process that led to these conclusions. Moreover, they are contrary to the available evidence.

The DEIR admits in its worker health and safety evaluation that the requirement to use low-VOC adhesives will increase the amount of Acetone in CPVC primers and cements.[301] This admission directly contradicts the DEIR's statement that "[c]hemicals released into the water after CPVC installation will be reduced by the inclusion of the low-VOC Adhesive requirement." The DEIR, however, fails to disclose this crucial information in its water quality analysis or to evaluate if this will lead to significant leaching of Acetone into drinking water.

Furthermore, the unsupported statement that the use of low-VOC cements and primers will reduce the leaching of other chemicals, including

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[295] Appendix 2, Sec. A.7.4, p. A13.
[296] Appendix 2, Table E1.
[297] Reid Comments.
[298] *Id.*
[299] DEIR at p. 4.
[300] DEIR at p. 58.
[301] DEIR at p. 63.

MEK, contradicts evidence that has previously been provided to HCD. In his 1998 comments, Dr. Bellows determined that low-VOC cements and primers may contain up to ten times the level of MEK than the regular CPVC cements and primers evaluated in the 1989 DHS study.[302] Accordingly, the use of low-VOC primer and cement may actually result in greater leaching impacts of certain chemicals. HCD must obtain the composition of low-VOC adhesives from the manufacturers in order to adequately evaluate this issue in the DEIR.

The unqualified statement that "[c]hemicals released into the water after CPVC installation will be reduced by the inclusion of the low-VOC Adhesive requirement." is further inaccurate because it fails to take into account leaching of organotins.[303] Organotins leach directly from CPVC pipe and fittings.[304] Accordingly, the rate of organotin leaching is unaffected by the composition of CPVC primer and cement.

3. New Formulations of CPVC Pipe and CPVC Solvents May Pose a Significant Leaching Risk

The DEIR's evaluation of leaching impacts is further deficient due to its failure to examine the ever-changing composition of CPVC Pipe and CPVC cements and primers. Reid identifies in his comments numerous changes to CPVC pipe composition and CPVC primer and cement formulations since the 2000 MND.[305] HCD, however, fails to identify these alternative formulations or assess the potential public health and environmental impact of their use.

Reid finds that these new formulations may pose significant leaching issues.[306] Some of the additives raise public health concerns not addressed in earlier HCD reviews of this issue. For example, unreacted monomers from impact modifiers may contain butadiene or acrylonitrile, which are carcinogens.[307]

As discussed above, new low-VOC formulations for CPVC primers and cements contain varying percentages of Acetone, MEK, THF and other chemicals that may leach into drinking water.[308] The DEIR relies upon earlier leaching tests that do not accurately reflect the amount of chemical leaching that may occur when these new low-VOC primers and cements are applied. Dr. Bellows testimony that low-VOC primers and cements may

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[302] Appendix 28 at pp. 18-20.
[303] Reid Comments.
[304] *Id.*
[305] Reid Comments.
[306] *Id.*
[307] *Id.*
[308] See also Section XI.D.1, *infra.*

contain ten times more MEK than the primers and cements studied in the 1989 DHS study highlights the danger of failing to analyze new formulations of CPVC pipe, fittings, primers and adhesives.[309]

These ongoing changes in pipe and cement formulations underscore the legal inadequacy of HCD's persistence in treating CPVC piping, fittings and solvents as an inert material. Without examining the new formulations of the products it is proposing to approve, HCD has no foundation to support its determination that there will be no new significant leaching impacts.

4. The Mitigation Measures Proposed to Address Leaching Impacts Are Inadequate

During the 2005 Addendum proceedings, we submitted substantial evidence that the mitigation measures proposed to eliminate contamination of drinking water from the chemicals leaching from CPVC pipe and solvents and cements fail to reduce the impacts to a level of insignificance.[310] The DEIR is inadequate because it fails to disclose or evaluate this evidence and assumes, without foundation, that the proposed mitigation measures are sufficient.

The DEIR assumes, without any citation to supporting evidence, that a one-week flushing regimen is sufficient to eliminate the contamination of drinking water from CPVC pipe and solvents. Studies of the leaching characteristics of CPVC demonstrate that CPVC pipe may leach organotins, MEK, THF and other chemicals into drinking water at levels of concern long beyond the first week of use.[311] Accordingly, the assumption that a one-week flushing regimen fully mitigates the Project's leaching impacts lacks any foundation. It is also contrary to the best available evidence.

In addition, there is substantial evidence that even this inadequate flushing regimen is not being enforced, implemented or monitored.[312] As a result, drinking water consumers are exposed to these leached chemicals from the initial time of installation.

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[309] Appendix 28 at pp. 18-20, 28.
[310] See *Architectural Heritage Ass'n v. County of Monterey, supra,* 122 Cal.App.4th at pp. 1111, 1118-19.
[311] Reid Comments; Appendices, 7, 19 & 100.
[312] Appendix 25 (Capitolo Report); Appendix 27 (Calone Report).

(a) The DEIR's Assumption that a One-Week Flushing Regimen Reduces the Level of Drinking Water Contamination to a Level of Insignificance Lacks Evidentiary Support

The DEIR indicates that because the 2000 MND already considered and required pipe flushing to prevent the contamination of drinking water from CPVC leachates, these issues need not be reevaluated. Even if HCD could rely on the 2000 MND[313], the 2000 MND presented no studies, data or analysis to support a finding of no significant impact. The 2000 MND never identified the levels of leaching before flushing or after flushing, nor did it indicate how the flushing requirement would reduce the leaching that has been identified after the initial installation.

Furthermore, the claim that a one-week flushing regimen would reduce the potential for leaching impacts below a level of significance is contrary to current available data. For example, CPVC leaches levels of MEK at unacceptable levels for more than a month.[314] Levels of THF are still unacceptable after 75 days.[315] Organotins stay at unacceptable levels for three weeks or longer.[316]

NSF screening data for CPVC materials, pipes, and fittings for product certification indicate that the concentration of dibutyltin ranged from 0.0013 ug/L to 140 ug/L and averaged 11 ug/L.[317] The data reported by NSF, when screened using the German tolerable intake level for dibutyltin, indicates that leaching of organotin compounds could result in a significant public health impact.[318] The average concentration of dibutyltin exceeds the German tolerable daily intake level of 8.75 ug/L in 6% of the samples after 21 days of leaching.[319] Thus, the proposed flushing mitigation measure would not eliminate this impact.

The failure to disclose that leaching may remain significant even after one week of flushing violates the fundamental public information and disclosure objectives of CEQA. More importantly, there is no substantial evidence to support HCD's conclusion that the proposed mitigation will reduce these impacts to a level of insignificance. The DEIR's reliance on a

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[313] As discussed fully in Section VII, *supra*, HCD may not rely on the 2000 MND in lieu of analyzing these impacts in the DEIR.
[314] Reid Comments; Appendices, 7, 19 & 100.
[315] *Id.*
[316] *Id.*
[317] *Id.*
[318] *Id.*
[319] *Id.*

one-week flushing regimen without any factual foundation for this reliance is arbitrary and capricious.

(b) Mitigation Measures Must Be Feasible and Enforceable, Meaning Capable of Being Accomplished in a Successful Manner, Taking Into Account Economic, Environmental, Social and Technological Factors

The incorporation of mitigation measures into a project means to modify the project to ensure that the measures mitigating potential impacts "necessarily will be implemented."[320] Accordingly, mitigation measures must be feasible, meaning capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.[321]

In addition, CEQA requires that public agencies adopt "feasible" mitigation measures that must "actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded."[322] "When the success of mitigation is uncertain, an agency cannot reasonably determine that significant effects will not occur."[323]

For example, in the case *Federation of Hillside and Canyon Associations,* Petitioners contended that there was no assurance that the proposed measures to mitigate the significant effects on transportation would be implemented because funding for the mitigation measures was highly speculative and because the mitigation measures were dependent on the cooperative efforts of various public agencies.[324] The Court agreed and held that the city failed to provide mitigation measures that would actually be implemented.[325]

The case at hand is analogous to the case *Oro Fino Gold Mining Corp. v. County of El Dorado.* In *Oro Fino Gold Mining Corp.*, a mining company that six years earlier had received a permit allowing drilling of up to 300 holes based upon a mitigated negative declaration sought a new permit to

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[320] *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261, fn. 4.
[321] Pub. Resources Code, § 2106.1; CEQA Guidelines § 15364.
[322] *Federation of Hillside and Canyon Associations v. City of Los Angeles, supra,* 83 Cal.App.4th at 1261; see Public Resources Code § 21002.1, subd. (b).
[323] Remy, Thomas & Moose, Guide to CEQA, *supra*, p.426; see *Sundstrom v. County of Mendocino, supra,* 202 Cal.App.3d at 306-308.
[324] *Federation of Hillside and Canyon Associations v. City of Los Angeles, supra,* 83 Cal.App.4th at 1260.
[325] *Id.* at 1261.

drill 30 new holes in an area that overlapped the old permit based upon a new mitigated negative declaration.

The new mitigated negative declaration proposed imposing the same 50-dBA drilling noise limit mitigation measure as the earlier permit.[326] Under the proposed mitigation, the drilling noise could not exceed the county standard of 50-dBA measure from a point within 50 feet of a residence.[327] While no one argued that the standard itself was inadequate, evidence was presented that during the previous project the same standard was not monitored or enforced vigorously and that residents had made multiple complaints to the county about noise from the project.[328]

The Agency determined that the evidence of past failure to enforce the mitigation measures imposed by the prior mitigated negative declaration demonstrated that there may be a significant impact even with the re-imposition of the same mitigation measures.[329]

The Appellate court upheld the Agency's decision, holding that evidence of actual past failures to monitor and enforce mitigation measures "constitute substantial evidence."[330] In other words, actual failure to monitor and enforce compliance with mitigation measures is substantial evidence that adverse impacts may occur.

(c) Recent Studies Demonstrate That the Flushing Protocol Is Not Adequate, Feasible or Enforceable

Two recent reports show a systematic failure to enforce or implement the flushing protocol imposed by the 2000 MND. In 2005, Mark Capitolo conducted a survey of building officials to evaluate the effectiveness of the mitigation measures imposed on the current limited approval of CPVC. Capitolo located 33 jurisdictions that have approved some use of CPVC under the current California Plumbing Code provisions.[331] Of the 33 jurisdictions surveyed, only *one* jurisdiction (a mere three percent) fully enforced the entire one-week flushing regimen.[332]

One other jurisdiction enforced the initial flush and the warning tag requirement, but did not return to ensure the second flush took place. Two

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[326] *Oro Fino Gold Mining Corp. v. County of El Dorado, supra* 225 Cal.App.3d at 876.
[327] *Id.* at 882.
[328] *Id.*
[329] *Id.*
[330] *Id.*
[331] Appendix 25.
[332] *Id.* at p. 4.

jurisdictions required the architect, engineer or contractor to certify they have complied with the flushing requirement, but did not inspect to ensure compliance. Generally, the sentiment was that "enforcing the second flushing was difficult." *Id.*

In addition to not being enforced by local building officials, the existing flushing requirements are not being followed by plumbing contractors. Attached to this Comment is a 2005 investigative report by Robert Calone, a certified plumbing inspector and a plumbing instructor who conducted an inspection of several worksites where CPVC potable water pipe was being installed in residential occupancies. He also conducted interviews with a number of journeymen plumbers experienced in the installation of CPVC pipe and who had recently installed CPVC in residential buildings.

Calone's investigation found zero compliance with the flushing requirements.[333] Workers doing the finish work reported that they would run the water through the system in order to test the fixtures, but did not run it for the time required by the protocol of flushing the system as a guard against chemical leaching. These plumbers also did not return a week later to give the system a second flush. Furthermore, none of the workers tagged the fixtures as required to indicate that a seven-day static flush was in place and none of the fixtures in the buildings Calone inspected were tagged.

The courts have held that "mere concern" that mitigation measures might not be enforced does not constitute admissible evidence.[334] In the case at hand, however, the evidence presented is not of feared or anticipated non-compliance, but of actual, systematic non-compliance demonstrating the complete failure of the mitigation measures. The court in *Oro Fino Gold Mining Corp.* recognized this distinction and held that actual evidence of failure to enforce mitigation measures was substantial evidence that adverse impacts may occur.[335]

This information was presented to HCD during the 2005 Addendum proceedings. Unfortunately, HCD chose to ignore this information in the DEIR. The DEIR must be revised and recirculated to disclose and evaluate the evidence that the one-week flushing regimen is inadequate, systematically ignored, and unenforced. The DEIR's evaluation of leaching impacts must be based upon actual substantial evidence. Its proposed mitigation measures must be feasible and enforceable.

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[333] Appendix 27.
[334] *Oro Fino Gold Mining Corp. v. County of El Dorado, supra,* 225 Cal.App.3d at 883; *Lucas Valley Homeowners Ass'n v. County of Marin* (1991) 233 Cal.App.3d 130, 164.
[335] *Oro Fino Gold Mining Corp. v. County of El Dorado, supra,* 225 Cal.App.3d at 883.

D. The DEIR Fails to Adequately Evaluate Potential Worker Health and Safety Impacts

1. The DEIR Fails to Evaluate Substantial Evidence That the Proposed Project Will Likely Expose Workers to Harmful Levels of Hazardous Chemicals

Past studies have demonstrated that without effective mitigation measures, workers installing CPVC pipe will be regularly exposed to levels of harmful chemicals exceeding established workplace standards. The most comprehensive study on this subject was conducted by DHS in 1989.[336] The DEIR, however, fails to even disclose the existence of this study, much less evaluate its relationship to the proposed Project. This failure is surprising since HCD was the agency that commissioned this study as part of its preparation of the abandoned 1989 EIR.

At HCD's request, DHS examined worker exposure to the chemicals in the solvents used to join the pipes and concluded that workers installing CPVC pipe regularly suffered significant exposure to toxic chemicals in excess of the legal exposure limits for those chemicals.[337] The study found that chemicals such as THF, CHX, ACE and MEK enter the bloodstream of workers through vapors, solvent skin contact and through permeation of gloves and clothes.

Dr. James Bellows, one of the primary authors of the 1989 DHS report, has extensively studied the potential health risks to workers installing CPVC pipe. Attached as Appendix 8 and Exhibit C are his 1998 worker health report prepared in conjunction with HCD's earlier CEQA review process and his 2006 update to that report. Bellow's analysis of the evidence demonstrates that the expanded statewide approval of CPVC would result in serious violations of workplace chemical exposure standards that must be considered significant under CEQA unless effective mitigation measures are implemented.[338]

The 1989 DHS study found that workers installing CPVC pipe are exposed above legal limits to the solvents contained in CPVC primer and cement – including THF, MEK, CHX and ACE. The likelihood of overexposure above the full-shift exposure limit was estimated to be 10% for a typical workday of installing CPVC pipe for potable water in residential construction. The likelihood of overexposure above the short-term exposure limit at least once in a typical eight-hour workday was estimated to be 68%.

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[336] Appendix 6.
[337] *Id.*
[338] Dr. Bellows Comments; see also Appendix 28 & Dr. Pless Comments.

Urine monitoring provided strong evidence that dermal absorption contributed substantially to the overall exposure in some workers. The DHS study further concluded that while THF and MEK have not been well studied, the available evidence suggests that these substances may cause cancer.

Dr. Bellows has also found that the proposed requirement to use low-VOC primer and cement will actually result in *higher* combined exposures than were observed in the 1989 DHS study.[339] The typical low-VOC primer and cements contain almost ten times the amount of MEK found in the cements and primer used by workers in the 1989 study. Accordingly, use of the required low-VOC primers and cements may result in "ten-fold higher airborne concentrations [of MEK] as the primer and cement evaporate."[340] The DEIR must be revised to evaluate the impact on workers from the change in the relative composition of ingredients found in low-VOC primers and cements.

Even at levels lower than recommended exposure limits, MEK and acetone produce irritation of the eyes and nose and throat.[341] Indeed a substantial percentage of plumbers report experiencing irritation during the installation of CPVC pipes.[342] DHS has stated clearly that short-term irritation is a material impairment to health.[343] Furthermore repeated irritation may contribute to chronic illness.[344]

In addition, all four solvents used in CPC primers and cements – THF, MEK, CHX and acetone – may lead to the depression of central nervous system functions. Dizziness was the second most common symptom of ill health reported by workers participating in the 1989 DHS study, followed by headaches.[345]

In 1998, Dr. Martyn Smith, Professor of Toxicology in the School of Public Health at the University of California, Berkeley, and Peggy Lopipero, M.P.H., reviewed the potential adverse health impacts for worker exposure to THF, MEK and acetone. Their report concluded that exposure to these chemicals may cause significant health effects[346] and that THF was

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[339] Appendix 28 at p. 18-20.
[340] *Id.* at p. 20.
[341] Appendix 24 at p. 23.
[342] *Id.* p. 23.
[343] Appendix 28 at p. 25.
[344] *Id.*
[345] *Id.* p. 36.
[346] Even at levels lower than recommended exposure limits, MEK and acetone produce irritation of the eyes and nose and throat. (Appendix 24 at p. 23.) Indeed a substantial percentage of plumbers report experiencing irritation during the installation of CPVC pipes.

potentially carcinogenic.[347] Lopipero and Smith also warned that CPVC solvents and cements in combination with each other or with other contaminants may cause illness where each individually would not. They concluded that MEK, acetone and possibly THF have the ability to potentiate the toxic effects of other chemicals including common contaminants of tap water.[348]

In the 1998 Draft EIR, HCD acknowledged these potential adverse impacts on worker health from CPVC installation. HCD stated that: "Workers not following safe use recommendations or using improper materials can be injured, and the lead agency considers this to be the worst case situation."[349] The DHS experts then advising HCD on the preparation of the incomplete 1998 EIR corroborated this conclusion, writing: "Case reports point to the likelihood that overexposure related to poor ventilation has already led to illness in pipe workers."[350]

2. Substantial Evidence Exists That Current Mitigation Measures Proposed to Address Worker Health and Safety Are Inadequate

(a) The Glove-Use Mitigation Measures Are Inadequate Even if Implemented or Enforced

Current CPC regulations require workers to use non-latex thin gauge (4 millimeters) nitrile gloves during the installation of the CPVC plumbing system.[351] The DEIR assumes without any foundation that this requirement is sufficient to reduce potential worker health and safety impacts to a level of insignificance. This assumption is contrary to the only substantial evidence available on this issue.

In his 1998 comments, Dr. Bellows recommended requiring the use of chemical protective gloves during all handling of CPVC primers and cements

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(*Id.* p. 23.) DHS has stated clearly that short-term irritation is a material impairment to health. (Appendix 28 at p. 25.) Furthermore repeated irritation may contribute to chronic illness. (*Id.*) All four solvents used in CPC primers and cements – THF, MEK, CHX and acetone – may lead to the depression of central nervous system functions. Dizziness was the second most common symptom of ill health reported by workers participating in the 1989 DHS study, followed by headaches. (*Id.* p. 36.)

[347] Appendix 24 at pp. 1-2, 23.

[348] Appendix 24 at p. 13.

[349] 1998 Draft EIR, p. 69.

[350] Comments of Elizabeth Katz, MPH, Acting Chief, Hazard Identification System and Information Service, Department of Health Services; June 11, 1998.

[351] CPC, Appendix I, IS 20, § 301.0.2.2.

"*providing gloves can be identified that give reliable, lasting protection against liquid THF, MEK, CHX and ACE*."[352] The 2000 MND imposed glove mitigation measures, but never analyzed whether the gloves provided "reliable, lasting protection against liquid THF, MEK, CHX and ACE."

At our request, Dr. Bellows recently evaluated how well these gloves protect workers who handle CPVC primers and cements. Dr. Bellows compared the chemicals commonly found in CPVC primers and cements with studies and performance guides for 4 mil nitrile gloves. What he found was that nitrile gloves are not recommended for protection against ACE, CHX, MEK, or THF.[353] Numerous references specifically cited the failure of nitrile gloves for these chemicals. THF, for example, was found to permeate 4 mm nitrile gloves "almost instantaneously".[354]

Dr. Bellows further concluded that use of these gloves may, in fact, increase exposure to these chemicals by holding contaminants in intimate contact with the skin after they have penetrated the protection.

The CPC does recommend that gloves "be replaced upon contamination by cements," but provides no guidance on what this means.[355] This vague directive provides no explanation as to when a glove is considered contaminated nor does it state how long a glove may be worn before it must be replaced. The continued use of THF, MEK, CHX and Acetone in CPVC cement and primer thus creates a significant likelihood of worker health and safety impacts even with the use of thin-gauge nitrile gloves.

The DEIR's failure to acknowledge and evaluate this impact renders it legally inadequate. Moreover, the decision to ignore this issue based solely on the fact that the 2000 MND (erroneously) determined this glove mitigation measure to be effective demonstrates a callous disregard for the safety of the workers who would install this material.

(b) The Ventilation and Glove-Use Mitigation Measures Are Not Being Implemented or Enforced

As discussed earlier, mitigation measures must be feasible, meaning capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and

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[352] Appendix 28 at p. 44, emphasis provided.
[353] Dr. Bellows Comments.
[354] Dr. Bellows Comments.
[355] CPC, Appendix I, IS 20, § 301.0.2.2.

technological factors.[356] Furthermore, mitigation measures must "actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded."[357]

When successful implementation of a proposed mitigation measure is uncertain, an agency cannot reasonably determine that significant effects will not occur."[358] Evidence of past failure to vigorously monitor and enforce compliance with similar or identical mitigation measures is substantial evidence that adverse impacts may occur.[359]

In the case at hand, substantial evidence exists of actual, systematic non-compliance with the proposed ventilation and glove-use mitigation measures, demonstrating that these measures fail to reduce adverse impacts "to a point where clearly no significant effect" will result.[360] The 2005 reports by Robert Calone and by Mark Capitolo demonstrate that the ventilation and glove-use mitigation measures are not being enforced, implemented or monitored.[361] As a result, many workers installing CPVC will be exposed to potentially hazardous amounts of toxic chemicals as detailed in the 1989 DHS report.

The survey conducted by Mark Capitolo reveals that the overwhelming majority of building officials fail to enforce ventilation and glove-use mitigation measures even in the very limited situations in which CPVC is currently approved.[362] Not one of the 33 jurisdictions surveyed by Mr. Capitolo fully enforced the ventilation and glove use measures.[363] Six out of thirty-three jurisdictions required contractors to certify that they were aware of these regulations, but did not conduct any inspections to verify compliance. Twenty-seven of the thirty-three jurisdictions (82%) failed to enforce *any* of the mitigation measures.[364]

The Robert Calone report demonstrates that not only are these mitigation measures unenforced as demonstrated by the Capitolo survey,

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[356] Pub. Resources Code, § 2106.1; CEQA Guidelines § 15364.
[357] *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261; see Pub. Resources Code § 21002.1, subd. (b).
[358] *Federation of Hillside and Canyon Associations v. City of Los Angeles*, *supra*, 83 Cal.App.4th at 1260; *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 882.
[359] *Oro Fino Gold Mining Corp. v. County of El Dorado, supra,* 225 Cal.App.3d at 882.
[360] See *Architectural Heritage Ass'n v. County of Monterey* (2004) 122 Cal.App.4th 1095, 1111, 1118-19.
[361] Appendix 25; Appendix 27.
[362] Appendix 25.
[363] Appendix 27 at p. 4.
[364] Appendix 27 at p. 4.

they are also rarely implemented.[365] Robert Calone is a certified plumbing inspector and a plumbing instructor who has inspected several worksites that were installing CPVC drinking water pipe into residential homes. He also interviewed a number of journeymen plumbers who had recently installed CPVC. He concludes in his report that there is almost universal non-compliance with the ventilation and glove-use mitigation measures. Workers that did use gloves tended to use cotton or PVC gloves, which provide zero protection from the dermal absorption of THF. He also found that most CPVC installers failed to use any eye protection. The only worksite he observed that actually complied with the safety standards did so only *after* a serious accident.

In light of the ineffectiveness of the mitigation measures imposed by the 2000 MND, the DEIR cannot rely on that mitigation to support a finding of no significant worker health impacts.[366]

(c) Need for Further Study of Worker Safety Mitigation

Dr. Bellows concludes that the actual effectiveness of proposed mitigation measures must be fully evaluated before they can be considered effective and reliable.[367] Dr. Bellows further warns that it is not sufficient to review the technical merit alone of a proposed worker safety measure in understanding whether the measure will result in any real exposure reduction.

The Calone and Capitolo studies were not comprehensive enough to reveal exactly why implementation of the 2000 MND mitigation measures has failed, but Dr. Bellows suggests that the implementation problems may be sociological or economic.[368] Contractors, for example, have a powerful economic interest in avoiding protective measures that add cost and time to the job. This makes it likely that at least some contractors will fail to ensure that such measures would be implemented. Indeed, the Capitolo and Calone reports found that almost no contractors ensure that the worker training, ventilation and glove use requirements are implemented. The one contractor who did implement these measures did so only after one of his workers was seriously injured installing CPVC.[369]

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[365] Appendix 27.

[366] See *Oro Fino Gold Mining Corp. v. County of El Dorado*, *supra*, 225 Cal.App.3d at 876 (evidence of past failure to enforce the mitigation measures for noise impacts imposed in a prior MND demonstrated that there may still be a significant impact even with the proposed mitigation measures).

[367] Dr. Bellows Comments.

[368] *Id.*

[369] Appendix 27.

Workers also may have an inherent resistance to these measures. Many workers find wearing chemical protective gloves to be uncomfortable and to slow their work.[370] Plumbing requires a reasonable sense of touch for the installation of piping, especially in finishing work, where some of the work may be done "blind" inside cabinets and the like.[371] In addition, some workers believe incorrectly that any type of gloves will provide protection. Workers under pressure to complete a job quickly may not take care to minimize or clean up spills, or to set up ventilation when their CPVC installation must be done in enclosed spaces.

Regulatory agencies may also have inherent barriers to enforcement. The staffing and resources may not be there to enforce measures outside of an agency's normal purview and may make enforcement of such measures a low priority. When directly asked in the Capitolo survey, none of the building officials felt that enforcing the ventilation and glove use measures was either feasible or effective.[372] Most of them pointed to a lack of manpower and resources. They also stated that enforcement was difficult because "it would require us to be present when they are doing the installation."[373] The building officials surveyed also complained "it's difficult for building officials to enforce" these provisions because they go "beyond the scope of their jobs."[374]

For now, the exact reason or reasons for the failure of the proposed mitigation measures remains unknown. Further study is needed to determine exactly why these mitigation measures are failing and what measures may be imposed to improve the effectiveness of future mitigation measures.

Dr. Bellows lists a number of additional mitigation measures that should be considered to further reduce the risk to worker health and safety. These measures include: (1) requiring the use of one-step cements with no primer; (2) requiring small containers and small daubers; (3) requiring the use of chemical protective gloves during all handling of CPVC primers and cements, *providing that gloves can be identified that give reliable, lasting protection against liquid THF, MEK, CHX and ACE*; (4) identifying and banning the use of gloves that are determined to increase worker exposure to contaminants; (5) improving and expanding worker training; (6) establishing adequate funding or personnel to ensure genuine enforcement of required

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[370] Dr. Bellows Comments.
[371] See Appendix 101 at p. IV.C-49.
[372] *Id.*
[373] *Id.*
[374] *Id.*

mitigation measures; and (7) establishing a monitoring system to improve enforcement of all relevant standards, especially those regarding gloves and ventilation.[375]

Dr. Bellows, however, cautions that these additional mitigation measures should be considered, not because they will guarantee that worker health impacts will be reduced below a level of insignificance, but because they may offer some additional protection. Where mitigation measures are demonstrated to be ineffective or only partially effective, they fail to ensure that there will be no adverse impacts on the environment. While this does not mean that partially effective mitigation measures should not be imposed in order to "reduce" the potential impacts, it does mean that such mitigation measures are inadequate to reduce such impacts to a "level of insignificance."

3. The DEIR Inaccurately Implies that the EPA Has Determined that Worker Exposure to MEK Is Not Hazardous

The DEIR's analysis of worker health impacts is further deficient because it misleads the public into believing that worker exposure to MEK is not considered hazardous. The DEIR states in its worker health and safety analysis that "Methyl ethyl ketone has been removed from the federal toxic air contaminant list by the U.S. Environmental Protection Agency."

While EPA has, in fact de-listed MEK from the Clean Air Act section 112 hazardous air pollutants ("HAP") list, th*e HAP list is not applicable to worker health and safety issues.*[376] The HAP list only looks at emissions that may be adverse to receptors outside of facility boundaries. Health effects of emissions within a facility are under the purview of OSHA.[377] The HAP list delisting expressly states that it does not change workplace Threshold Limit Values ("TLV") for MEK.

Making this statement as part of its worker health and safety discussion is deliberately misleading. It falsely suggests to the lay reader that worker exposure to MEK is not considered hazardous. The DEIR must be revised to clarify that the worker exposure to MEK is considered potentially hazardous.

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[375] Dr. Bellows Comments.
[376] Federal Register, Vol. 70, No. 242 (Dec. 19, 2005) at p. 75055; Appendix 82. The HAP list also does not consider the role of MEK as an ozone precursor.
[377] *Id.*

4. The DEIR Fails to Consider the Increased Risk to Workers Manufacturing CPVC Pipes and Solvents

The DEIR fails to address at all the worker health impacts associated with the increased manufacturing of CPVC resins, CPVC pipe and fittings, and CPVC solvent cements and primers. The DEIR's complete failure to address the impacts of increased CPVC and related product manufacturing in response to the project approval is contrary to CEQA requirements.[378]

Throughout the manufacture of CPVC, dioxins, furans, hexachlorobenzene, and PCBs are unavoidably produced, primarily because of CPVC's chlorine content.[379] When evaluated in relation to other plastics used to make pipe, CPVC is considered "worst in class" for use of harmful substances and earned a recommendation of "avoid" in the Plastic Pipe Alternatives Assessment produced by the San Francisco Department of the Environment.[380]

Not surprisingly, CPVC manufacture can result in significant worker exposures to toxic and carcinogenic chemicals.[381] In her 2005 comments, Dr. Phyllis Fox calculated that dioxin emissions alone may expose workers to a cancer risk of over 5 per million – five times above relevant significance thresholds.[382] In addition, workers are exposed to a wide range of other toxic chemicals, including THF, MEK and CHX.[383] The Vinyl Chloride industry in particular has a very disturbing record of manufacturers knowingly exposing workers to serious and life-threatening workplace conditions.[384]

The proposed action to allow the use of CPVC for all residential drinking water systems would increase the potential CPVC use in residential homes by as much as 25 to 100 times current annual use. This in turn would substantially increase the risk to workers in the CPVC pipe and solvent manufacturing industry. This is a potentially significant adverse impact that must be reviewed in an EIR.

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[378] See *Building Code Action v. Energy Resources Conservation and Development Commission* (1980) 102 Cal.App.3d 577.
[379] Appendix 21; Dr. Fox Comments.
[380] Appendix 21 at p. 4.
[381] Dr. Fox Comments, §II.B.
[382] *Id.*
[383] *Id.*
[384] Appendix 36.

5. A Revised and Recirculated DEIR Is Required to Fully Consider the Potential Impacts on Worker Health and Safety

Substantial evidence based upon real world monitoring of the limited approval of CPVC establishes that workers will experience significant exposures under actual field conditions even with the proposed mitigation measures in place. HCD must determine by empirical evidence and expert analysis if proposed ventilation and glove-use measures would avoid worker overexposures. Furthermore, it must analyze why past measures have not been effectively implemented and identify the specific measures that are necessary to ensure implementation.

The DEIR must be revised and recirculated to allow for this analysis. Only then may appropriate mitigation measures be developed to ensure effective implementation of the work practices and conditions that the DEIR itself indicates are necessary to protect workers.

E. The DEIR Fails to Adequately Consider and Mitigate the Solid Waste Impacts of the Project

The DEIR's conclusion that the Project "will not result in any new solid waste impacts" lacks foundation, fails to apply the proper baseline comparison and is contrary to the evidence in the record. Rather than disclosing the Project's potential solid waste impacts, the DEIR seems intent on obscuring and justifying these impacts.

Indeed, the DEIR goes so far as to state: "Any disposal challenges, however, must be balanced against the benefits derived from the long productive life of CPVC pipes."[385] This statement demonstrates a fundamental misunderstanding of the role of an EIR. An EIR must disclose and impose feasible mitigation for all impacts of a project. It may not avoid such disclosure and mitigation by claiming to balance a Project's benefits.[386] Moreover, this statement lacks foundation. No evidence supports the inaccurate claim that CPVC pipes have a longer productive life than copper pipe.

The DEIR inaccurately states that "[t]he durability and protracted life of CPVC is likely to reduce both the necessity for replacement and any corresponding production of waste."[387] This statement lacks any foundation,

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[385] DEIR at p. 67.
[386] See CEQA Guidelines §§ 15091 & 15093.
[387] DEIR at p. 70.

citation to evidence or description of the analytic process that led to this conclusion. Moreover, it is contrary to the evidence that copper pipe has much longer estimated life than CPVC.[388] CPVC's estimated lifespan is only 20 to 40 years.[389] Copper pipe, on the other hand, has an estimated lifespan of well-over 50 years.[390] As a result, on average CPVC plastic pipe will need to be replaced more often than copper pipes. This statement is also contrary to the evidence that copper pipe is substantially more likely to be recycled and reused than CPVC pipe.[391] Accordingly, the replacement of CPVC pipe will result in much greater waste disposal impacts than the replacement of copper pipe.

Instead of evaluating the impact of substantially increasing the amount of CPVC waste, the DEIR embarks on a discussion of why plastics generally are "useful and popular."[392] Furthermore, instead of comparing the solid waste impacts of CPVC plastic pipe with the solid waste impacts of copper pipe (the material CPVC would replace), the DEIR compares CPVC plastic pipe with other types of plastics.[393]

The DEIR irrelevantly and inaccurately states that "[w]hile the cumulative effect on solid waste disposal may occur in the future, the effect is not expected to be any greater than the current plastic disposal issues."[394] It then goes on to state that "[t]here is no reason to suspect that CPVC solid waste impacts will be any better or worse than other non-bottle plastics."[395] These both are misleading straw arguments with no relevance to the question of whether the proposed use of CPVC plastic pipe will result in worse solid waste impacts than the current use of copper pipe.

In addition, these statements lack any foundation, citation to evidence or description of the analytic process that led to this conclusion. Neither of the preparers of the DEIR have any technical expertise in solid waste disposal or plastic recycling issues.

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[388] Reid Comments.
[389] In 1989, HCD determined that a CPVC or other plastic potable water system would have a service life of 20 years. (1989 Plastic Pipe Draft EIR, p. 88.) While HCD has since made varying other claims as to CPVC's expected lifespan, it has never explained why its initial estimate of 20 years should be disregarded. The patent for at least one CPVC manufacturer states that the lifespan of CPVC is "as long as 30 or 40 years." (Appendix 37.)
[390] Reid Comments.
[391] Reid Comments.
[392] DEIR at p. 66.
[393] DEIR at pp. 5, 68.
[394] DEIR at p. 5.
[395] DEIR at p. 68.

Moreover, these statements ignore and contradict the evidence submitted to HCD during prior proceedings that CPVC solid waste impacts are, in fact, much worse than that of other plastics. CPVC and PVC plastics are distinguished as being the only chlorinated plastic compounds.[396] This results in unique environmental and health exposures impacts. As a result, CPVC is extremely difficult to recycle, is rarely recycled and is considered a "contaminant" in the plastic recycling waste stream.[397] Recent reports on CPVC have stated bluntly, "there is no safe way to get rid of it, and no good way to recycle it."[398]

A recent 2005 draft report by the San Francisco Department of the Environment examined the solid waste problem posed by various types of plastic pipe and found that CPVC posed the most significant problem. The report found that CPVC is hard to recycle and is considered a "contaminant" by most plastic recycling programs.[399] It also found that CPVC posed disposal problems because it (and PVC) is the only plastic pipe on the market that has OSPAR[400] Chemicals for Priority Action (organotins, lead and possibly cadmium) in the final product itself.[401]

HCD was provided this report during the 2005 Addendum proceedings, yet fails to disclose or evaluate the report's findings in the DEIR. Moreover, the DEIR's conclusions contradict this report without any evidence or expertise to support such a contrary finding.

The DEIR also states without foundation that "[i]t is a common construction industry practice for existing pipe to be left in the structure when it is replaced with new pipe."[402] This statement again lacks any citation to evidence or description of the analytic process that led to this conclusion.

The DEIR justifies its general lack of analysis by claiming that "[t]here is no way of predicting the exact amount or location of this disposal."[403] However, then the DEIR goes on to say that 7, 349 housing units are demolished every year.[404] The DEIR also states that there will be 100,000 re-

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[396] Appendices 21, 67, 72.
[397] Appendices 21, 54, 67, 72.
[398] Appendix 69 at p. 17
[399] Appendix 21 at pp. 3, 15.
[400] Oslo-Paris Convention for the Protection of the Marine Environment of the North-East Atlantic ("OSPAR"). Chemicals on the OSPAR list are of high concern for water toxicity.
[401] Appendix 21 at p. 3.
[402] DEIR at p. 67.
[403] DEIR at p. 69.
[404] *Id.*

pipes every year.[405] This data provides a simple method for estimating the Project's resultant solid waste impact. HCD simply needs to multiply the estimated average linear feet of CPVC used per house and multiply it by the number of units demolished and re-piped every year. Furthermore, HCD indicates that this data may be available per county. HCD states that 2,531 homes are demolished a year in the County of Los Angeles. The DEIR must be revised to provide this analysis and disclose the actual solid waste impacts expected from the Project.

The DEIR then goes on to conclude that "[i]f CPVC pipe is used more extensively in the future in California, it is likely that it too will be recycled."[406] The DEIR also states "[r]ecycling and reuse of CPVC pipe is both technically feasible and likely given current trends in plastic recycling."[407] These statements again lack any foundation, citation to evidence or description of the analytic process that led to these conclusions. These statements also fail to provide any baseline comparison between the expected recycling rate of CPVC and the expected recycling rate of copper pipe.

Furthermore, these statements are contrary to the evidence in the record that CPVC is not "recyclable," but rather is only "down-cyclable." A 2002 report by Dr. Joe Thorton determined that recycled post-consumer PVC (including CPVC) is "always of lower quality than the original material."[408] As a result, CPVC is down-cycled, rather than recycled.[409] Dr. Thorton goes on to explain that

> Down-cycling does not reduce the amount of PVC produced each year or the total quantity of PVC building up on the planet. The illusion of recycling actually increases the global PVC burden by finding new uses for old PVC while creating a positive image for a product that can be neither safely disposed of nor truly recycled.[410]

The DEIR also fails to evaluate whether recycling CPVC in significant amounts is economically feasible in addition to be technically feasible. Mere technical feasibility is not sufficient to support a finding that CPVC pipe will be recycled. Dr. Thorton's report examined current PVC recycling trends in

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[405] DEIR at p. 35.
[406] DEIR at p. 68.
[407] DEIR at p. 69.
[408] Appendix 67 at p. 54.
[409] *Id.*
[410] *Id.*

Europe, where more ambitious recycling programs are in place, and found that:

> In the European Union countries, less than 3 percent of postconsumer PVC waste is recycled—the majority of which is actually down-cycling of cable and packaging wastes. . . .The European Commission projects that only 9 percent of all PVC waste is likely to be recycled by 2020, with a maximum potential of no more than 18 percent. Such low recycling rates, even with time to develop an ambitious program, indicate that PVC is not and cannot be a green building material.[411]

The potential environmental hazards of CPVC recycling must also be evaluated. Mechanical recycling of CPVC can release additives, including phthalates and stabilizers, which may then be dispersed into the recycled products, into the environment, or, if they are captured, disposed of on land or in incinerators.[412]

Moreover, because CPVC is considered a "contaminant" in the plastic recycling waste stream, increased amounts of CPVC waste may actually interfere with recycling of other plastics.[413] Efforts to recycle other types of plastics may be ruined by contamination with even small amounts of CPVC.[414] This makes strict segregation of PVC from the plastics waste stream essential. However, such segregation is often difficult to achieve in practice.[415] The potential impact of increased CPVC waste on the recycling of other plastics must be disclosed and mitigated if possible.

The DEIR also fails to evaluate the unique hazards associated with the ultimate disposal of CPVC. Dr. Horton's 2002 report found that "The final stage of PVC's lifecycle [including CPVC] creates the most severe environmental hazards."[416] Dr. Horton identifies three concerns about CPVC disposal. First, the persistence of CPVC, which typically lasts for centuries in a landfill, presents a significant burden in terms of the demand for landfill space. Second, the release of additives in the plastic can contaminate groundwater. Third, fires can occur during or after the disposal process, releasing hazardous substances into the air, including dioxins and metals.[417]

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[411] *Id.* at p. 55.
[412] *Id.* at p. 55.
[413] Appendix 21 at 3, 15; Appendix 71 at p. 28.
[414] *Id.*
[415] *Id.*
[416] Appendix 67 at p. 54.
[417] Appendix 67 at p. 56 ("PVC is the predominant source of dioxin-generating chlorine in these facilities. In municipal waste incinerators, PVC contributes at least 80 percent of the organically-bound chlorine and 50 to 67 percent of the total chlorine(organochlorines plus

The 2005 San Francisco Department of the Environment report also concluded that disposal of CPVC presents an increased risk of releasing dioxins, heavy metals and other gases into the air due to combustion in incinerators or landfill fires.[418]

The evidence in the record demonstrates that the current trend is to reduce and replace CPVC use, not to recycle CPVC waste.[419] HCD's proposed massive expansion of CPVC use in California, however, runs directly counter to this national and international trend.

The 2005 San Francisco Department of the Environment report concludes by recommending that CPVC be "avoided" due to its negative impact on solid waste disposal.[420] A 2003 report by the Global Development and Environment Institute has documented numerous efforts worldwide to phase out the use of PVC, including CPVC.[421] In California, the cities of Oakland, San Francisco and Berkeley have adopted resolutions to eliminate dioxin, including PVC use reduction as a broader strategy.[422] A number of U.S. health care institutions and professional societies have adopted resolutions encouraging the elimination of PVC and other products that are important contributors to dioxin formation.[423] Denmark, Spain, Germany, Norway, Luxembourg and Sweden have all adopted policies encouraging the phasing out of PVC use, including PVC piping.[424] Numerous water bottling companies in Europe are also phasing out the use of PVC.[425]

The DEIR's ultimate conclusion that the Project will not have any solid waste impacts is also contrary to its statement on page 70 of the DEIR that "[t]he Project will have indirect solid waste impacts."[426] The DEIR must be revised to explain this contradiction and to analyze the project's indirect solid waste impacts.

This conclusion is also contrary to the 1997 Initial Study prepared by HCD that determined the impact on solid waste disposal that would result from statewide approval of CPVC "would result in problems in solid waste

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inorganic chloride) in the waste stream—although it makes up only about 0.5 percent of the trash stream by weight.").

[418] Appendix 21 at p. 3.

[419] See, e.g., Appendix 68 at pp. 16, 40-45; Appendices 70 & 71 (calling for reduction of PVC in hospitals, including plastic plumbing pipes.); Appendix 72.

[420] Appendix 21 at, pp. 4, 17; *see also*, Appendix 53 (documenting PVC waste crisis).

[421] Appendix 68 at pp. 16, 40-45.

[422] *Id.* at p. 40.

[423] *Id.*

[424] *Id.* at pp. 41-42.

[425] *Id.* at p. 42.

[426] DEIR at p. 70.

disposal for demolition debris from structures which used CPVC pipe."[427] The 2000 MND also implicitly acknowledged that statewide approval may pose a solid waste problem by expressly stating that its finding with regard to solid waste impacts was "based on the limited number of anticipated residential installations of CPVC."[428]

Since the issuance of the 2000 MND, new evidence has arisen corroborating the potential solid waste problem posed by the increased use of CPVC and calling for the phasing out of this product. The DEIR fails to evaluate any of this evidence. CPVC pipe is universally considered to pose serious waste disposal concerns. The DEIR's conclusion to the contrary lacks foundation and credibility. Solid waste disposal is a potentially significant adverse environmental impact of the proposed statewide approval of CPVC. This significant impact must be disclosed and evaluated in a revised DEIR.

F. The DEIR Fails to Evaluate the Increased Risks of Fire Propagation and Toxic Smoke Posed by the Increased Use of CPVC

The DEIR fails to address at all the potential risk of fire propagation and toxic smoke posed by the increased use of CPVC. In its 1997 Initial Study, HCD determined that the statewide approval of CPVC posed a potentially significant risk of fire hazards.[429] HCD found that "During earlier analysis it was determined that CPVC pipe is more susceptible to fire damage than metal pipe, that it could allow more rapid spread of fire, and that it could produce toxic gases when exposed to fire." The DEIR contains no analysis or evidence evaluating this finding and proposes no mitigations to address this issue.

Substantial evidence exists that when CPVC burns, it produces dioxins, an extremely toxic substance known to cause cancer in humans.[430] Additionally, the burning of CPVC releases other toxic gases and heavy metals present in the pipe into the air and residual ash, including hydrogen chloride, and vinyl chloride.[431] CPVC starts to smolder and release toxic fumes such as hydrochloric acid long before it ignites.[432] If CPVC is gradually warmed, more than half of its weight is given off as fumes before it is hot enough to burst into flames.[433]

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[427] *Id.* at 16.
[428] Appendix 1.
[429] Appendix 17, pp. 7, 14.
[430] Appendix 21 at 3.
[431] Dr. Fox Comments; Appendix 21; see also Appendices 68, 69, 75.
[432] Appendix 68 at pp. 1,11.
[433] *Id.*

The increased use of CPVC will thus result in the increased likelihood of CPVC burning and releasing dioxins, hydrogen chloride and other toxic substances in accidental home fires, incinerators and landfill fires.[434] This is a potentially significant adverse environmental impact that could affect the health of firefighters, building occupants, and neighbors.[435] As HCD previously determined in 1997, this significant impact must be reviewed and analyzed in an EIR.

G. The DEIR Fails to Evaluate Potential Mechanical Failure Impacts

The DEIR fails to disclose or evaluate the issue of potentially catastrophic premature ruptures of CPVC pipe. Substantial evidence exists that CPVC may prematurely rupture when exposed to numerous common household substances, including termiticides, fungicides, WD-40, oil-based caulk and plasticized PVC (electric wire insulation).[436] This evidence was provided to HCD during the 2005 Addendum proceedings, yet ignored completely in the DEIR.

A new 2003 Canadian Report states that certain types of electrical wire and cable jacketing may contain plasticizers that leach out when in contact with CPVC pipe and damage the pipe.[437] Nothing in the building code, however, prohibits placement of electrical wiring adjacent to CPVC plastic pipe. Furthermore, it is common to install electrical wiring adjacent to CPVC plastic pipe since the same holes are often used for both plumbing and electrical service.[438] Termiticides, fungicides, WD-40 and caulk are also likely to be applied near or around CPVC pipe under sinks or where it passes through openings in walls.

Accordingly, there is a significant potential for premature failure due to incompatible materials. This impact must be reviewed and analyzed in a revised DEIR.

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[434] Dr. Fox Comments.
[435] *Id.*
[436] Reid Comments; Appendix 30 at p. 40; Appendix 31.
[437] Appendix 30 at p. 40.
[438] Appendix 50, Declaration of John Hall.

XII. INADEQUATE ASSESSMENT OF CUMULATIVE IMPACTS

A. Legal Standards

"Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."[439] Because of this potential additive effect, "the full environmental impact of a proposed project cannot be gauged in a vacuum."[440] For these reasons, CEQA requires that an EIR discuss a project's potential cumulative impacts when combined with past, present, and reasonably anticipated future projects. [441]

> [C]onsideration of the effects of a project or projects as if no others existed would encourage the piecemeal approval of several projects that, taken together, could overwhelm the natural environment and disastrously overburden the man-made infrastructure and vital community services. This would effectively defeat CEQA's mandate to review the actual effect of the projects upon the environment.[442]

CEQA's cumulative impact analysis requirement must be interpreted to afford the fullest possible protection to the environment.[443] Accordingly, the courts have vigorously enforced the obligation to consider cumulative impacts. As the court stated in *Citizens to Preserve the Ojai v. County of Ventura*:

> [I]t is vitally important that an EIR avoid minimizing the cumulative impacts. Rather, it must reflect a conscientious effort to provide public agencies and the general public with adequate and relevant detailed information about them. [Citation.] A cumulative impact analysis which understates information concerning the severity and significance of cumulative impacts impedes meaningful public discussion and skews the decisionmaker's perspective concerning the environmental consequences of a project, the necessity for mitigation measures, and the appropriateness of project

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[439] CEQA Guidelines § 15355, subd. (b).
[440] *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 114, fns. omitted.
[441] Pub. Resources Code § 21083, subd. (b), CEQA Guidelines §§ 15130, subd. (b) & 15355, subd. (b).
[442] *Las Virgenes Homeowners Federation, Inc. v. County of Los Angeles* (1986) 177 Cal.App.3d 300, 306.
[443] *Citizens to Preserve the Ojai v. Board of Supervisors* (1985) 176 Cal.App.3d 421, 431-32; *Kings County Farm Bureau v. City of Hanford, supra,* 221 Cal.App.3d at p. 720.

> approval. [Citation.] An inadequate cumulative impact analysis does not demonstrate to an apprehensive citizenry that the governmental decisionmaker has in fact fully analyzed and considered the environmental consequences of its action.[444]

A lead agency must find that a project will have a significant effect on the environment if "[t]he possible effects of a project are individually limited but cumulatively considerable."[445] The fact that a particular project's incremental impact is not significant, or is relatively small when compared to the greater overall problem, does not mean the project does not have significant cumulative impacts. This theory was rejected in *Kings County* because it would allow "the approval of projects which, when taken in isolation, appear insignificant, but when viewed together, appear startling."[446] The proper standard for a cumulative impacts analysis is whether the impacts are "collectively significant."[447]

Uncertainty about a project's potential cumulative impacts does not excuse the lead agency from analyzing those impacts.[448] An agency must use its best efforts to discover and disclose all information reasonably possible.[449] Even if the lead agency finds that there are no significant cumulative impacts, an EIR must explain the basis for that conclusion.[450]

B. Application of Legal Standards to the DEIR

The DEIR's brief paragraph on cumulative impacts falls far short of the CEQA standards discussed above. The DEIR, *without any quantification, analysis or factual discussion*, concludes that the statewide approval of CPVC would have no cumulatively considerable impacts other than impacts on air quality.[451] The failure to even consider cumulative impacts other than air quality "effectively defeat[s] CEQA's mandate to review the actual effect of the project[ ] upon the environment."[452]

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[444] *Citizens to Preserve the Ojai v. County of Ventura, supra,* 176 Cal.App.3d at p. 431.
[445] Pub. Resources Code § 21083, subd. (b); *see also* CEQA Guidelines § 15065, subd.(a)(3).
[446] *Kings County Farm Bureau v. City of Hanford, supra,* 221 Cal.App.3d at p. 720-21.
[447] *Id.* at p. 721, citing CEQA Guidelines § 15355.
[448] *Terminal Plaza Corp. v. City and County of San Francisco* (1986) 177 Cal.App.3d 892, 904-905.
[449] CEQA Guidelines § 15144.
[450] *Terminal Plaza, supra*, 177 Cal.App.3d at pp. 904-905.
[451] DEIR at pp. 72.
[452] *Las Virgenes Homeowners Federation, Inc. v. County of Los Angeles, supra,* 177 Cal.App.3d at 306.

1. Failure to Consider Cumulative Impacts on Worker Safety

An analysis of the total potential for worker chemical exposures indicates that such exposures would be cumulatively significant. As demonstrated in the technical comments, cumulative worker exposure is significant when exposures during concurrent system installation and long-term cumulative exposures are considered along with exposures from the Project. The failure to consider this issue is a critical defect in HCD's evaluation and undermines the integrity of its conclusions regarding worker safety.

Moreover, the DEIR fails to evaluate the cumulative impacts from HCD's current proposed adoption of regulations expanding the approval of acrylonitrile butadiene styrene ("ABS") and PVC drain, waste and vent ("DWV") pipe.[453] ABS and PVC DWV pipe also uses solvents to join the pipes and fixtures. The approval of these pipes may result in increased worker exposure to hazardous chemicals. This reasonably anticipated future project must be examined alongside the proposed expanded approval of CPVC to determine their potential cumulative impacts.

Revealingly, the DEIR formulates a threshold of significance for cumulative worker health and safety impacts that fails to take into account *any* past, present, or reasonably anticipated future projects. The DEIR states: "For a cumulative impact, the lead agency considers any repeated exceedance of the threshold of significance to be significant." This threshold improperly gauges the project's cumulative impacts in the vacuum of Project related exposures. It fails to consider the potential additive effect of the Project when considered in the context of concurrent system installations and exposures to other toxic chemicals on the construction worksite, such as ABS and PVC solvents.

As a result, the DEIR fails to provide any evaluation of the Project's "cumulative" worker health and safety impacts.

2. Failure to Consider Cumulative Impacts on Drinking Water Contamination

The DEIR fails to discuss or evaluate the potential for cumulative effects on drinking water contamination. No facts or data regarding background contaminant concentrations, Project contaminant concentrations,

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[453] Appendix 81.

multiple pathway exposure potential, long-term exposure potential or expected total combined chemical exposure are provided.

As discussed in the attached technical comments, when background levels of contamination and long-term exposures are considered, the Project presents a potential for significant cumulative effects on drinking water contamination.

3. Inadequate Consideration of Cumulative Impacts on Solid Waste Disposal

The DEIR fails to analyze or evaluate the potential for cumulative effects on Solid Waste Disposal. As discussed in the attached technical comments, CPVC is considered a contaminant in the waste stream and may hinder efforts to recycle other plastics. Moreover, it makes landfill fires and incinerators significantly more dangerous due to the release of dioxins when CPVC is burned. CPVC will also burden the already overburdened waste disposal facilities and sites throughout California. CPVC pipe will replace the use of copper pipe, which has an almost 100 percent recycle rate. The DEIR fails to evaluate the Project's cumulative impact on any of these issues.

The failure to consider these potential cumulative impacts is a critical defect in HCD's evaluation and undermines the integrity of its conclusions.

XIII. INADEQUATE ASSESSMENT OF ALTERNATIVES

The DEIR's alternative analysis is legally inadequate for a number of reasons. First, it fails to identify and discuss several suitable and feasible alternatives. Second it fails to compare the significant effects of the alternatives with those that would result from the Project. Third, it fails to identify the environmentally superior alternative. Fourth, it fails to support its selection of alternatives and its identification of the "preferred alternative" with any analysis or substantial evidence.

An EIR must identify and evaluate a reasonable range of feasible alternatives that could avoid or substantially lessen the Project's significant environmental effects.[454] An EIR should explain how the Project alternatives were selected for analysis.[455]

The DEIR does select a range of alternatives. However, it fails to explain how these alternatives were selected for analysis. Furthermore, it

[454] Pub. Resources Code §§ 21002, 21002.1, subd. (a), 21100. subd. (b) & 21150.
[455] CEQA Guidelines § 15126.6, subd. (c).

fails to expressly identify and discuss copper pipe as a suitable and feasible alternative to CPVC.

CEQA requires more than just mere identification of alternatives. CEQA also requires that an EIR evaluate the comparative merits of the alternatives.[456] An EIR must contain information sufficient to allow an informed comparison of the relative impacts of the project and the alternatives.[457] An EIR must set forth facts and meaningful analysis of these alternatives rather than "just the agency's bare conclusions or opinions."[458]

The DEIR, however, fails to provide any such comparative data. As a result it precludes meaningful consideration of the alternatives.

Furthermore, an EIR must identify the environmentally superior alternatives.[459] If the "no project" alternative is the environmentally superior alternative, then the EIR must also identify an environmentally superior alternative from among the other alternatives.[460]

The DEIR, however, fails to identify the environmentally superior alternative. Instead, the DEIR merely states that the proposed Project is the "preferred alternative."[461] This statement fails to reveal if HCD believes the Project is the environmentally preferred alternative or simply the building industry's preferred alternative. Moreover, the DEIR's selection of the proposed Project as the "preferred alternative" lacks any foundation, citation to evidence or description of the analytic process that led to this conclusion.

XIV. A NEW DEIR MUST BE RECIRCULATED FOR PUBLIC REVIEW

A. Legal Standards

A DEIR must be recirculated if: (1) it reveals new substantial environmental impacts not disclosed in the DEIR; (2) it reveals a substantial increase in the severity of impacts (unless mitigated); (3) comments have been received that identify new feasible mitigation measures, but the feasible mitigation measures are not adopted; or (4) it is so fundamentally and

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[456] CEQA Guidelines § 15126.6, subds. (a) & (e).
[457] *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 733.
[458] *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336.
[459] Kostka & Zischke, *Practice Under the California Environmental Quality Act*, § 15.37, p. 765; see also CEQA Guidelines § 15126.6; *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336.
[460] *Id.*
[461] DEIR at p.3.

basically inadequate and conclusory in nature that public comment on the DEIR was essentially meaningless.[462]

The courts have held that the failure to recirculate an EIR turns the process of environmental evaluation into a "useless ritual" which could jeopardize "responsible decision-making."[463] Both the opportunity to comment and the preparation of written responses to those comments are crucial parts of the EIR process.

The *Sutter* court held that the failure to include all significant information in the original document denied the public the "opportunity to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom."[464]

Recirculation of an EIR is also required in order to assure that responses will be prepared by the lead agency to all comments. "The policy of citizen input which underlies the act supports the requirement that the responsible public officials set forth in detail the reasons why the economic and social value of the project, in their opinion, overcomes the significant environmental objections raised by the public."[465] The responses to comments play a vital role in insuring the integrity of the process by precluding stubborn problems or serious criticism from being swept under the rug.[466]

Responses to comments play such an important role in the environmental evaluation that CEQA Guidelines spell out the agency's duty to avoid pro forma responses:

> In particular, the major environmental issues raised when the lead agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail giving reasons why specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice.[467]

CEQA is much more than simply a presentation to the public of the lead agency's environmental analysis. Public comments and responses to comments are equally essential ingredients of a valid EIR.[468]

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[462] CEQA Guidelines § 15088.5, subd. (a).
[463] *Sutter Sensible Planning v. Sutter County Board,* (1981) 122 Cal.App.3d 813, 822.
[464] *Sutter Sensible Planning v. Sutter County Board, supra,* 122 Cal.App.3d at p. 822.
[465] *People v. County of Kern, supra,* 39 Cal.App.3d at p. 841.
[466] *Id.*
[467] CEQA Guidelines § 15088, subd.(c).
[468] See *County of Inyo v. City of Los Angeles, supra,* 160 Cal.App.3d at p. 1185.

B. Application of Legal Standards to the DEIR

These comments have identified several substantial environmental impacts that were not discussed at all in the DEIR or were not meaningfully considered. These include direct and cumulative impacts on drinking water contamination, worker health and safety, solid waste disposal, mechanical failure and fire safety. In addition, we have presented substantial evidence that the severity of air quality impacts from the Project will be much greater than disclosed in the DEIR. The DEIR must be withdrawn, revised and recirculated to properly evaluate these impacts.

We have also identified feasible mitigation measures that have not been evaluated or proposed for adoption by the DEIR. Under CEQA Guidelines, the DEIR must be revised and recirculated to allow for public comment on these unadopted feasible mitigation measures.

The DEIR must also be revised and recirculated to address its failure to meaningfully evaluate Project alternatives and its failure to identify the environmentally superior alternative.

Finally, the DEIR must be withdrawn and revised because its numerous deficiencies preclude meaningful public comment. As discussed throughout this comment letter, these deficiencies include: (1) its grudging, pro forma consideration of an action previously approved by the lead agency; (2) the failure to conduct an independent analysis and evaluation; (3) the failure to disclose or explain the analytical basis for the DEIR's conclusions; (4) the fundamentally inaccurate and incomplete project definition; (5) the arbitrary selection of thresholds of significance; (6) the reliance on unsupported and inaccurate assumptions and factual assertions; and (7) the inadequate and incomplete assessment of potential impacts.

The combined deficiencies in the DEIR reflect a document "so fundamentally and basically inadequate and conclusory in nature that public comment on the draft was in effect meaningless."[469] The omission of numerous analytical details or factual explanations for the critical conclusions contained within the DEIR denied the public an "opportunity to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom."[470] Under these circumstances, recirculation is required under the *Laurel Heights II* test.

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[469] *Laurel Heights II, supra,* 6 Cal.4th at p. 1130.

[470] *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 131; CEQA Guidelines § 15088.5.

XV. IN ADDITION TO THE HEALTH AND SAFETY AND ENVIRONMENTAL RISKS POSED BY CPVC, APPROVAL OF THE PIPE WOULD RESULT IN LITTLE TO NO SHORT-TERM SAVINGS AND MUCH GREATER LONG-TERM COSTS TO CONSUMERS

Extensive comments on the economic ramifications of plastic pipe approval were submitted in the 1989 proceeding by Dr. William T. Dickens. In his comments, Dr. Dickens concludes that any savings from the use of plastic piping would not be passed on to homebuyers.[471]

At the time of his study, Dr. Dickens was a professor of economics at the University of California, Berkeley, and is now a resident scholar in economic studies at the Brookings Institution. He received his Ph.D. in economics from M.I.T. in 1981, has been a Research Associate of the National Bureau of Economic Research since 1983 and serves as a reviewer for the National Science Foundation and several other granting agencies and for all the major economic journals.[472] He is also a former member of the President's Council of Economic Advisors.

Dr. Dickens explained that under standard economic theory, any plumbing system cost savings would not be passed on to homebuyers or renters. Since the supply of housing is limited, price is not determined by the cost of construction, but land prices and the demand for housing.[473] In other words, the price of a house depends on land costs and what people will pay for it and not on what it cost to build. Dr. Dickens also concluded that, in the long run, the shorter lifespan of CPVC versus copper pipe results in higher replacement costs for consumers and higher total costs.[474]

No response to Dr. Dicken's comments has ever been presented, and they remain even more relevant today with the skyrocketing price of real estate outpacing any increases in the actual cost of construction.

XVI. CONCLUSION

As demonstrated in these comments, the DEIR is profoundly inadequate and fails to meet the minimum requirements of CEQA. The document does not provide substantial evidence or an analytic basis to

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[471] Appendix 100-F.
[472] Appendix 33.
[473] Appendix 100-F.
[474] *Id.*

support its findings or project approval. Further, the DEIR ignores a vast body of evidence demonstrating that the expanded statewide approval of CPVC may have numerous significant impacts on public health and the environment. As a result, it fails in significant aspects to perform its function as an informational document that is meant "to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment" and "to list ways in which the significant effects of such a project might be minimized."[475]

The Coalition for Safe Building Materials respectfully requests that HCD withdraw the DEIR and revise it to fully and completely address the issues and evidence that we have presented. The revised DEIR must then be recirculated for public review.

[475] *Laurel Heights I, supra,* 47 Cal.3d at 391.